ORDER NO. AD9506152C2

Service Manual

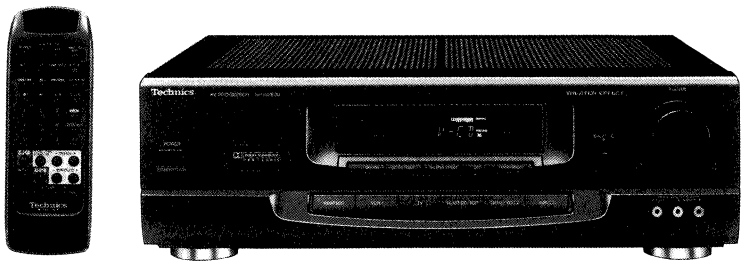
AV Processor Amplifier

DOLBY SURROUND PRO • LOGIC *1

SH-AV500

Colour

(K) : Black



Areas

Suffix for Model No.	Area	Colour
(E)	Europe	(K)
(EB)	Britain	
(EG)	Germany and Italy	

*1 Manufactured under license from Dolby Laboratories Licensing Corporation. Additionally licensed under one or more or the following patents: U.S. numbers 3,632,886, 3,746,792 and 3,959,590; Canada numbers 1,004,603 and 1,037,877.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Specifications (DIN 45 500)

■ MAIN AMPLIFIER SECTION

Power output at the Dolby Pro Logic operation
DIN 1kHz (T.H.D. 1%)
Center 40 W (8 Ω)
*2 **Surround** 40 W (8 Ω)
Damping factor 40 (8 Ω)
Load impedance
Center 8 – 16 Ω
Surround 4 – 16 Ω

■ PRE AMPLIFIER SECTION

Input sensitivity/Impedance
VCR1, TV, VIDEO CD/VDP, GAME/VCR2, AUX/CD 150 mV/22 kΩ
S/N (PRE OUT terminals)
VCR1, TV, VIDEO CD/VDP, GAME/VCR2, AUX/CD 75 dB (90 dB, IHF '66)
Frequency response (PRE OUT terminals)
VCR1, TV, VIDEO CD/VDP, GAME/VCR2, AUX/CD
10 Hz – 40 kHz, (±3 dB)
Output voltage
VCR 1 OUT 150 mV
SUB WOOFER OUT 300 mV
PRE OUT 8 V
Channel balance
(250 Hz – 6.3 kHz, PRE OUT terminals) ±1 dB
Channel separation (1 kHz, PRE OUT terminals) 50 dB

■ VIDEO SECTION

Output voltage at 1 V input (unbalanced) 1 ± 0.1 Vp-p
Maximum input voltage 1.3 Vp-p
Input/output impedance 75Ω (unbalanced)

■ GENERAL

Power consumption 120 W
Power supply
For (E) and (EG) areas 50 Hz/60 Hz AC, 230 V
For (EB) area 50 Hz/60 Hz AC, 230 V – 240 V
Dimensions (W × H × D) 430 × 136 × 352 mm
Weight 6.8 kg

Notes:
1. Design and specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.
3. *2 Surround speakers' total impedance

⚠WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

© 1995 Matsushita Electric Industrial Co., Ltd. All rights reserved. Unauthorized copying and distribution is a violation of law.

■ Contents

	Page
Before Repair	2
Protection Circuitry	2
Accessories	2
Caution for AC Mains Lead	3
Front Panel Controls	4
Equipment Connections	4, 5
Speaker Connections	6, 7
Enjoying AV Sources	7
Enjoying AV Sources with DOLBY PRO LOGIC	8~10
Operation Check and Main Component Replacement Procedures	11~16
Schematic Diagram	17~26
Printed Circuit Board Diagram	27~31
Wiring Connection Diagram	32
Block Diagram	33~35
Function of IC Terminals	36
Replacement Parts List	37~41
Packaging	41
Cabinet Parts Location	42, 43

■ Before Repair

(1) Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C703, C704) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V/240 V.

Power supply voltage	AC 230 V	AC 240 V
Consumed current 50 Hz	70 ~ 200 mA	65 ~ 195 mA

■ Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

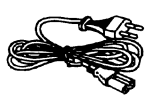
1. Switch OFF the power.
2. Determine the cause of the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

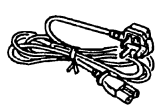
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

■ Accessories

- AC power supply cord
  (E) and (EG) areas : (RJA0019-2K) 1
  (EB) area : (VJA0733) 1

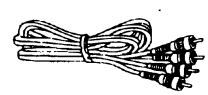


(E) and (EG) areas

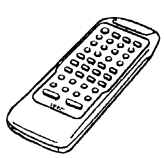


(EB) area

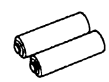
- Stereo connection cable
  (SJP2272-2) 1



- Remote control transmitter
  (RAK-SA172XH) 1



- Batteries
  (UM-4, "AAA", R03) 2
  Note: These are available on sales route.



■ Caution for AC Mains Lead

[(EB) area code model only]

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ⓚ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFETY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

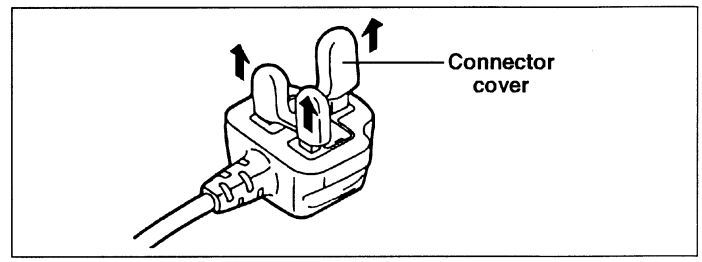
This apparatus was produced to BS 800.

The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚ .

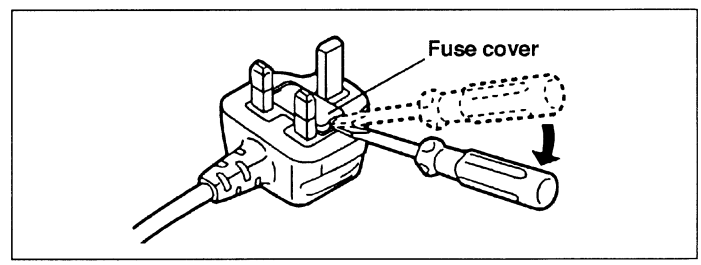
Before use

Removal the connector cover as follows.

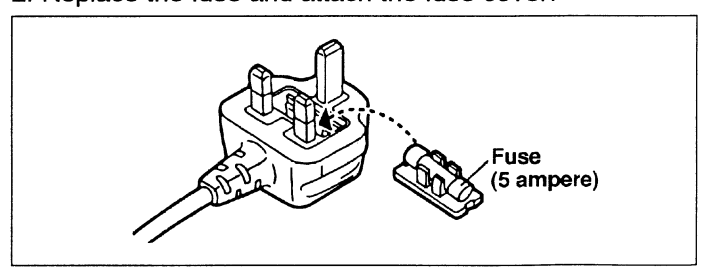


How to replace the fuse

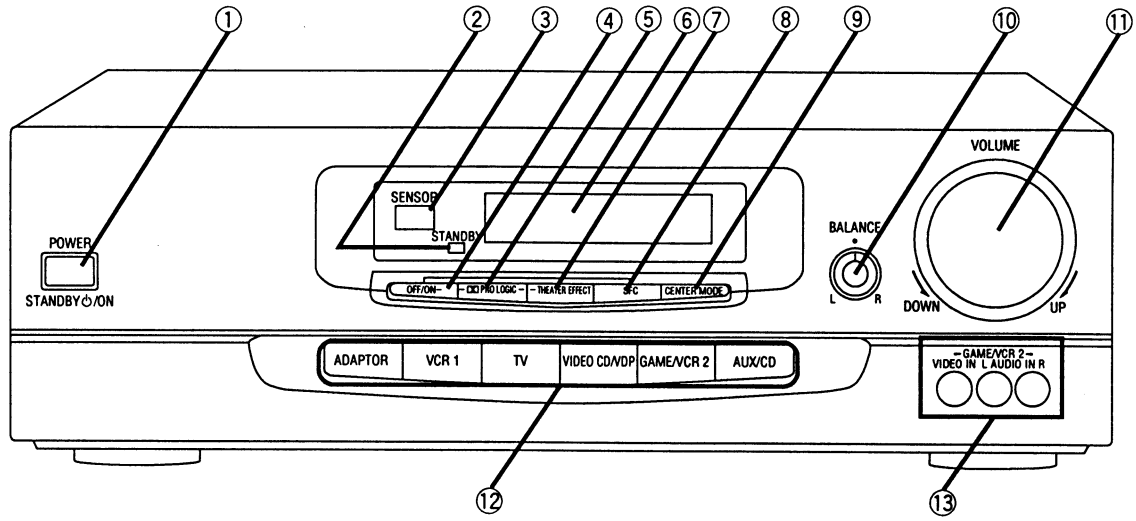
1. Remove the fuse cover with a screwdriver.



2. Replace the fuse and attach the fuse cover.



■ Front Panel Controls



① Power "STANDBY ⏻/ON" switch (POWER, STANDBY ⏻/ON)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

② "STANDBY" indicator (STANDBY)
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

③ Remote control signal sensor (SENSOR)

④ DOLBY PRO LOGIC/SFC OFF ON button (OFF/ON)

⑤ DOLBY PRO LOGIC mode select button (DD PRO LOGIC)

⑥ Display

⑦ Theater effect ON/OFF button (THEATER EFFECT)

⑧ SFC mode select button (SFC)

⑨ Center mode select button (CENTER MODE)

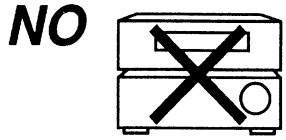
⑩ Balance control (BALANCE)

⑪ Volume control (VOLUME)

⑫ Input select buttons

⑬ GAME/VCR 2 front input terminals (GAME/VCR 2)

CAUTION
Do not place a tape deck or CD player on top of this unit.
Heat radiated from the top of this unit may cause damage to the tape or CD software.



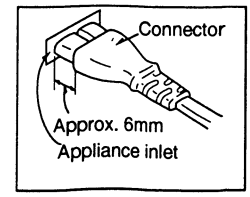
■ Equipment Connections

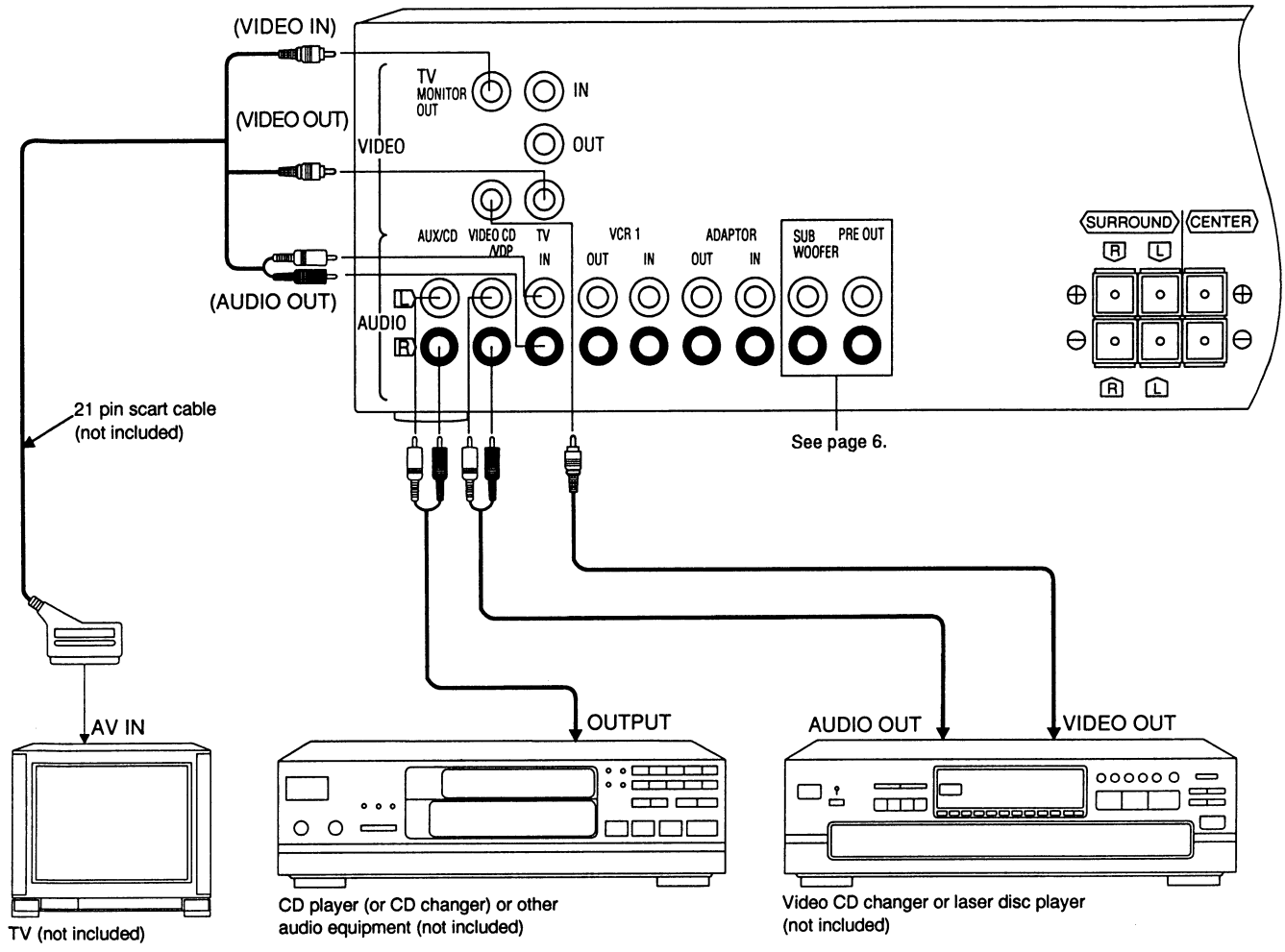
Make sure that the power supply for all components has been turned off before making any connections.

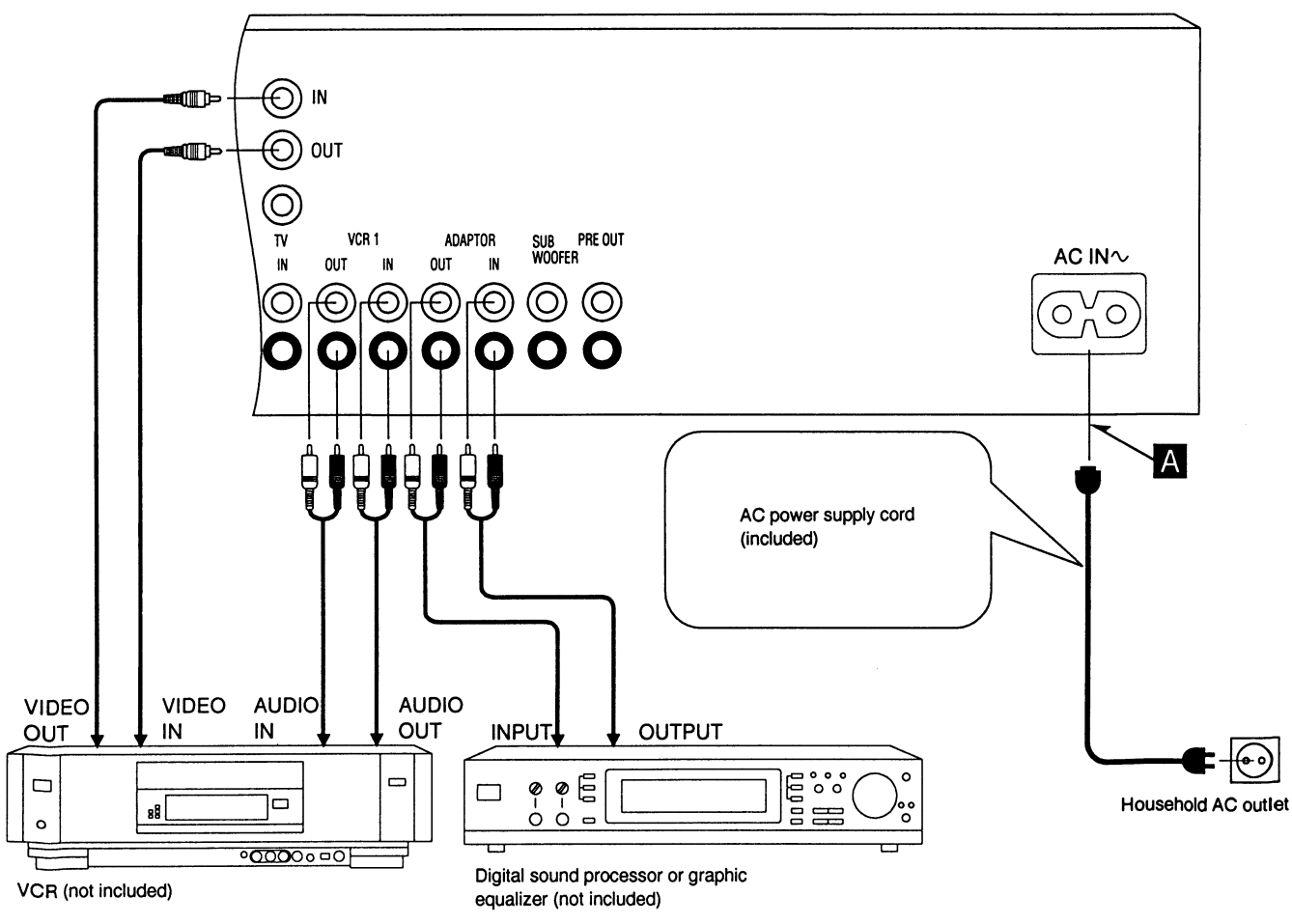
Stereo connection cable (not included)
(L) White
(R) Red

Video connection cable (not included)

Insertion of Connector A
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing. However there is no problem using the unit.




(VIDEO IN)
(VIDEO OUT)
(AUDIO OUT)
TV MONITOR OUT
IN
OUT
VIDEO
AUDIO
AUX/CD
VIDEO CD /VDP
TV IN
VCR 1 OUT IN
ADAPTOR OUT IN
SUB WOOFER
PRE OUT
SURROUND
CENTER
21 pin scart cable (not included)
See page 6.
AV IN
OUTPUT
AUDIO OUT
VIDEO OUT
TV (not included)
CD player (or CD changer) or other audio equipment (not included)
Video CD changer or laser disc player (not included)


IN
OUT
TV IN
VCR 1 OUT IN
ADAPTOR OUT IN
SUB WOOFER
PRE OUT
AC IN
A
AC power supply cord (included)
VIDEO OUT
VIDEO IN
AUDIO IN
AUDIO OUT
INPUT
OUTPUT
Household AC outlet
VCR (not included)
Digital sound processor or graphic equalizer (not included)

■ Speaker Connections

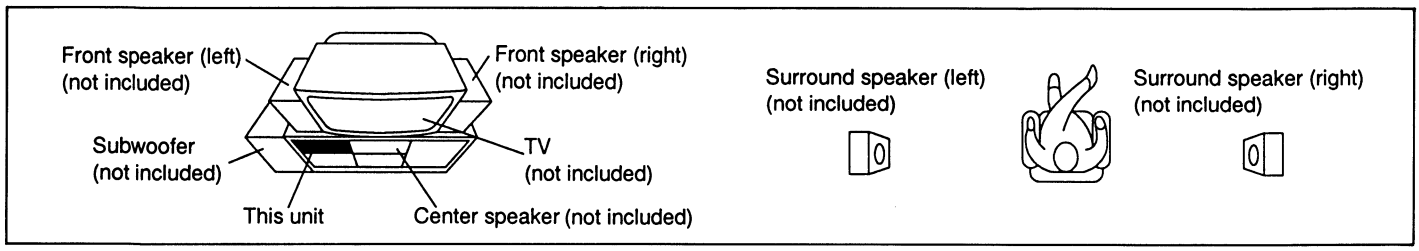
Placement of speakers

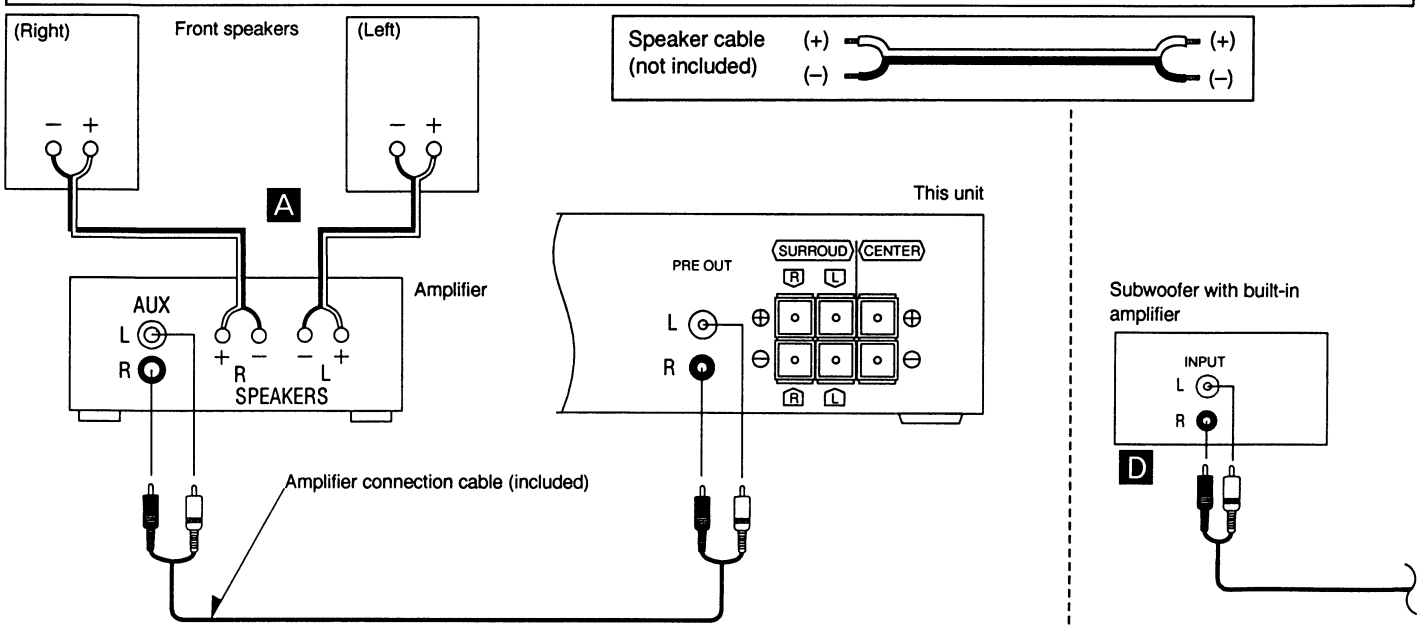
The illustration below shows where to place the speakers so as to best enjoy sound with Dolby Pro Logic systems and the SFC function.
We recommend that surround speakers be placed on the side of or slightly behind the listener, and about one meter higher than ear level.
However the position should be adjusted to your personal preference, because the effect varies to some degree depending upon the type of music and the music source.

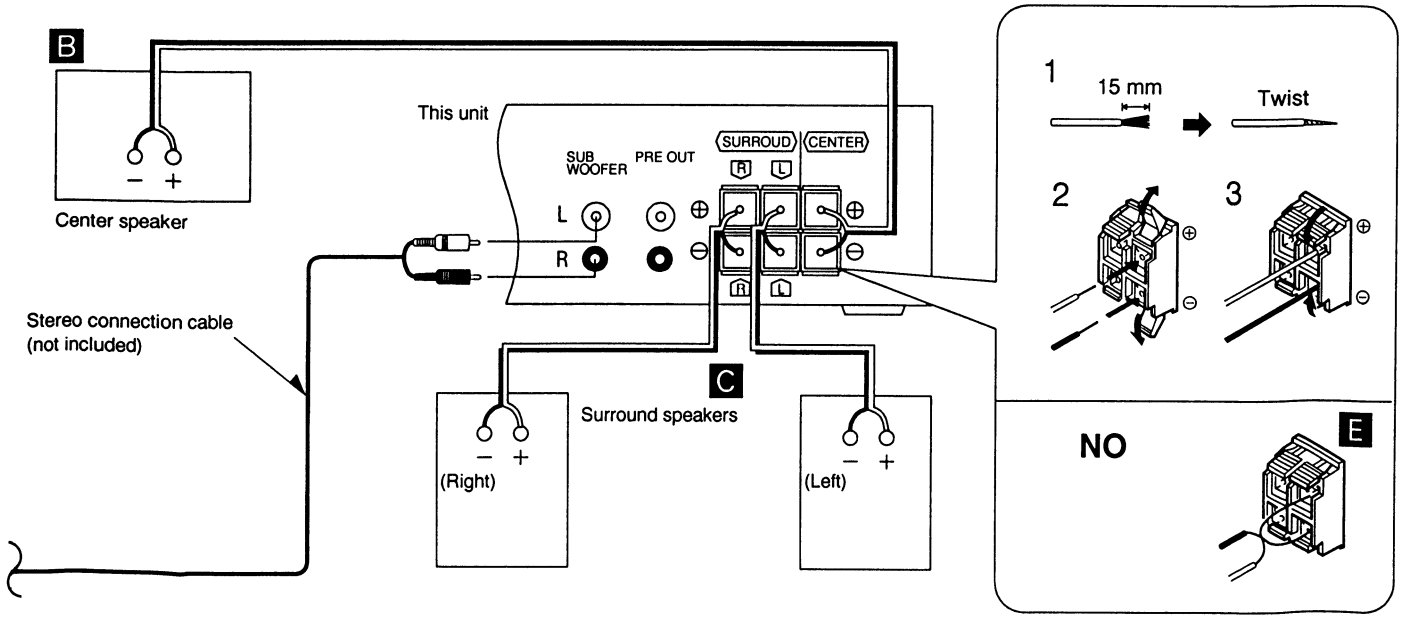
If you do not have surround speakers, you can enjoy better clarity and localization in 3 STEREO, using the front and center speakers (see page 10).

The sound reproduced by a speaker is easily influenced by such factors as room acoustics and the system's location in the room. Before finally deciding where the speakers are to be placed, please read the following information carefully.

- The bass sound will be increased if the speakers are placed on the floor or close to a wall due to the sound reverberation.
  It is therefore possible to adjust the bass sound to some extent by adjusting the speaker's distance from the wall and/or floor.
- Undesirable resonance or sound reverberation will occur if the speakers face a hard wall or window. Curtains or similar materials can be used to prevent these reflections.
- Keep the speakers away from sources of heat, high humidity and direct sunlight.







Front speakers (not included) A

1. Connect an amplifier with front speaker terminals (Technics SU-A700MK2, SU-A600MK2, etc.) to this unit.
2. Then, connect the front speakers to the amplifier.

Center speaker (not included) B

- Before sound can be heard, the SURROUND mode or 3 STEREO mode (of the Dolby Pro Logic system) must be on.
- Though your center speaker can have an impedance level between 8 and 16Ω, we recommend that you use a one with a 8Ω impedance.

Surround speakers (not included) C

- Before sound can be heard, both surround speakers must be connected.
- Though your surround speakers can have an impedance level between 4 and 16Ω, we recommend that you use speakers with a 4Ω impedance.

Subwoofer (not included) D

This unit has no amplifier section designed especially for the subwoofer, so it is necessary to purchase a subwoofer with a built-in amplifier or buy the two separately.

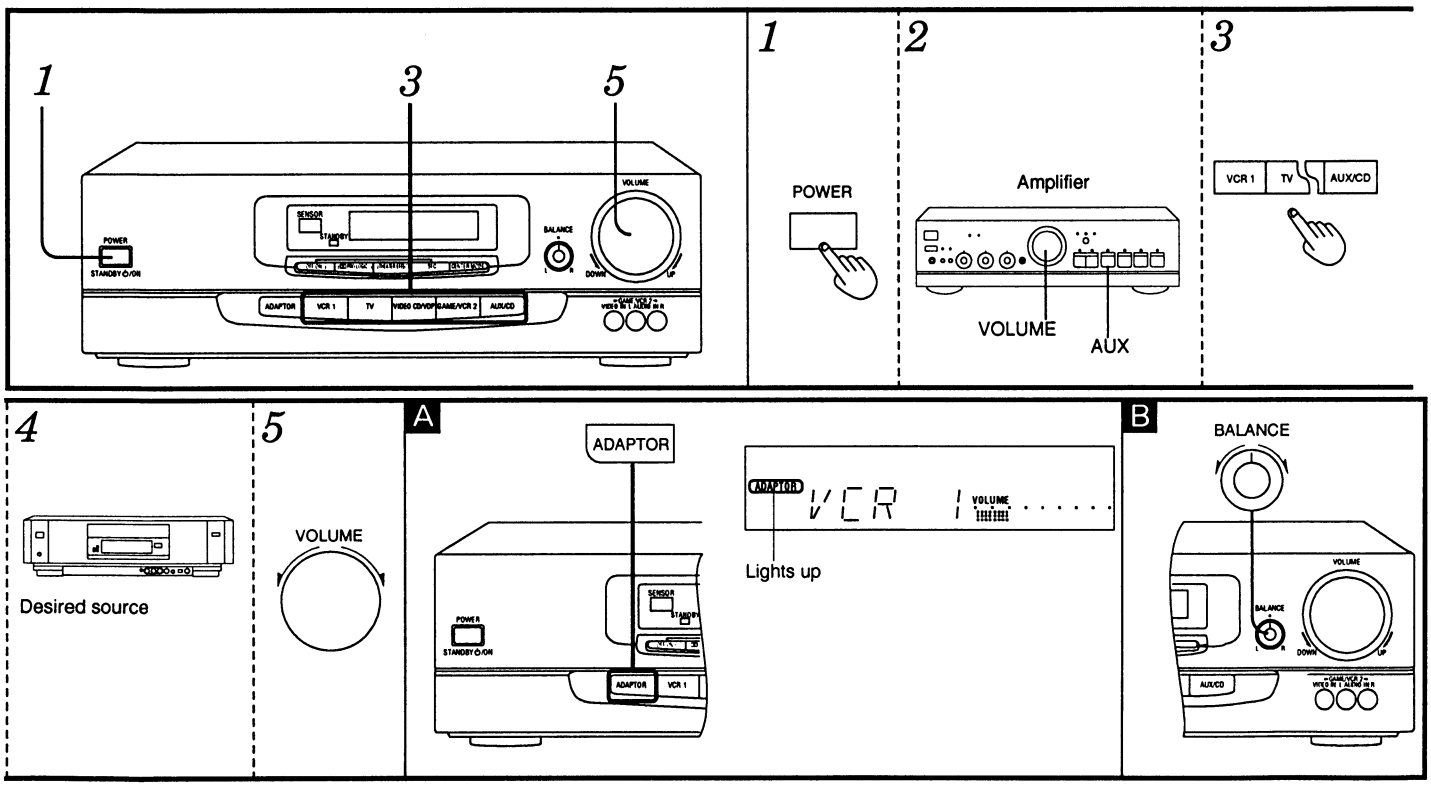
For subwoofers without a built-in amplifier

Connect an optional amplifier to the "SUBWOOFER" terminals of this unit and then connect a subwoofer to the speaker terminals of the amplifier.

CAUTION E

To prevent damage to circuitry, never short-circuit positive (+) and negative (–) speaker wires.

■ Enjoying AV Sources



Before operation

Turn on the power supply for the TV and set the TV/VIDEO mode as described below.

To enjoy videos, video CDs, laser discs or video games: Set it to VIDEO mode.

To watch TV: Set it to TV mode.

1 **Press POWER to switch on the power.**
Turn on the power supply to all other AV units.

2 **Set the input selector on the front speaker amplifier connected to this unit, to "AUX". And, set the volume control to the normal listening position.**

3 **Press to select the desired source.**
VCR 1: To watch video tapes (VCR 1)
TV: To watch TV
VIDEO CD/VDP: To watch video CD or laser discs
GAME/VCR 2: To play video game or watch video tapes (VCR 2) played back on the equipment connected to the "GAME/VCR 2" terminals
AUX/CD: To listen to compact discs or other audio equipment

4 **Start the desired source.**

5 **Turn VOLUME to adjust the volume level.**

After listening is finished

Be sure to reduce the volume level, and switch the power to the standby condition by pressing POWER on the amplifier.
Turn off the power supply to all other AV units.

If using a digital sound processor or graphic equalizer (connected to the ADAPTOR terminals) A

Press ADAPTOR. (The ADAPTOR indication on the display will light up.)
If the "ADAPTOR" terminals are not used, press this button once again to turn the indication off.

To adjust the sound balance B

Turn BALANCE to adjust left/right sound balance.
This will not adjust the left/right volume balance of the surround speakers.

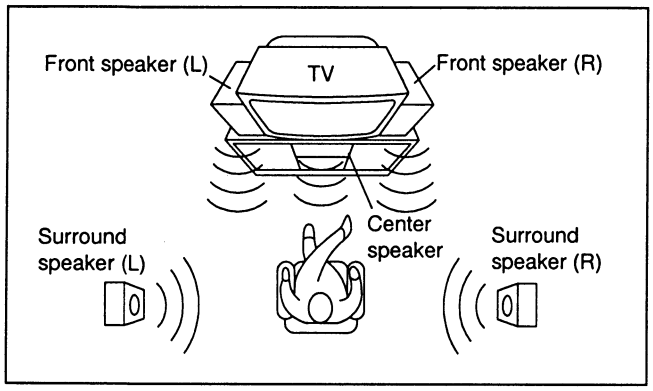
■ Enjoying AV Sources with DOLBY PRO LOGIC

By combining front, center and surround speakers, you can enjoy the SURROUND mode which conveys a feeling of presence or the 3 STEREO mode which conveys greater sound orientation.

SURROUND

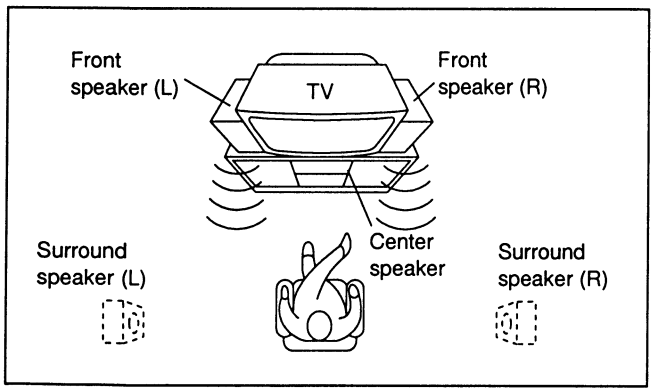
By reproducing the feeling of depth and movement of sound, video software or compact discs recorded with Dolby Surround provide the listener with a feeling of presence like that of a movie theater.

For your added listening pleasure
This stereo comes with a THEATER EFFECT mode which spreads out the sound as actually happens at the theater by enhancing the reverberation of the source.



3 STEREO

You can enjoy AV sources with clear sound, more presence and a good sense of sound orientation. 3 STEREO can be used with non DOLBY SURROUND recordings.



Manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Setting the center mode

For Dolby Pro Logic systems, center mode setting is necessary to play back bass sounds effectively.
Set the center mode in accordance with the size of your center speaker.

1 **Press PRO LOGIC to turn on the Dolby Pro Logic systems and select the desired mode.**
When the button is pressed, the current mode is displayed.
Pressing it again changes the Dolby Pro Logic mode.

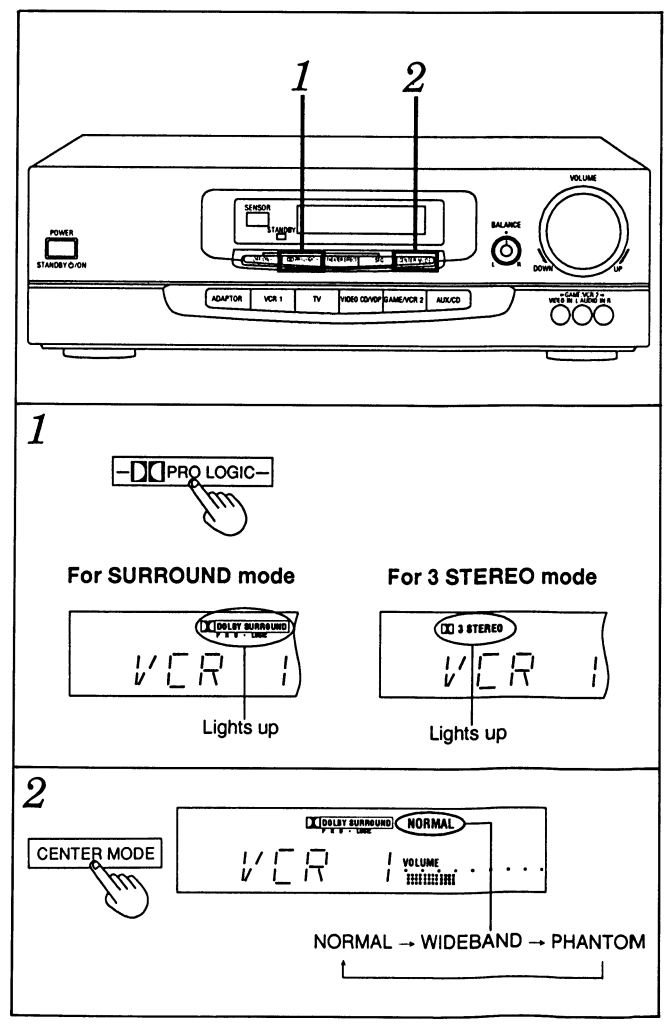
2 **Press CENTER MODE to select the correct center mode.**

The indication changes each time the button is pressed.

NORMAL
When the center speaker is smaller than the front speakers
WIDEBAND
When the center speaker is the same or larger size as the front speakers
PHANTOM
When no center speaker is connected.

Note

1. In the PHANTOM mode, the sound which would have been sent to the center speaker will be divided equally between both the left and right front speakers.
2. In the 3 stereo mode, the PHANTOM indication is not displayed.



Adjusting speaker output level

by remote control only

In order to reproduce the movement of the sound and its clear orientation, it is important to adjust the output level of each speaker. Adjust output to the correct levels while listening to the test signal.

Note

To adjust speaker output level in the 3 stereo mode, first change the mode this unit is in to the 3 stereo mode (see page 8). Then, follow the below procedure from step 2.

1 Press PRO LOGIC SURROUND to turn on the Dolby Pro Logic systems and SURROUND mode.

2 Press TEST to output a test signal.

The test signal is emitted in the following order:

For SURROUND mode

Front speaker (left) → Center speaker → Front speaker (right)
↑ Surround speakers (left, right) ←

Note

The test signal is not emitted from the center speaker when the center mode is on PHANTOM.

For 3 STEREO mode

Front speaker (left) → Center speaker → Front speaker (right)
↑

3 Set the volume control of the front speaker amplifier connected to this unit, to the normal listening position.

4 Press VOLUME (–) or (+) to set the volume level normally used for enjoying the source.

5 Press CENTER (–) or (+) or SURROUND (–) or (+) to adjust the output level balance.

Adjust the speaker output level of each speaker from the listening position until they are all identical.

: Decrease the output level.

: Increase the output level.

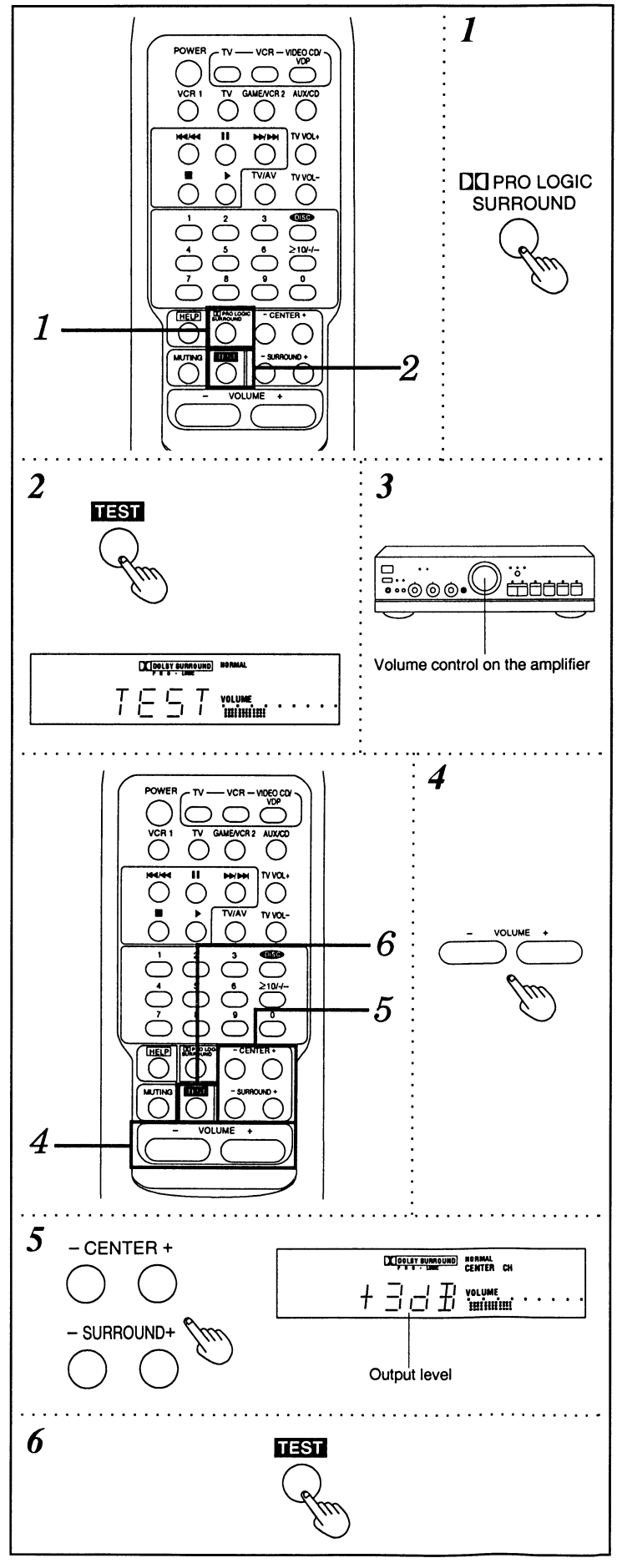
You can at anytime adjust output from a particular speaker by pressing the corresponding buttons (–, +).

Output level can be varied in the range of –12 dB to +12 dB.

Note

1. The test signal is output only by the speaker you are now adjusting and does not repeat the sequence until adjustments are complete.
2. If you cannot adjust output level of the front speakers to the same level as the center/surround speakers, adjust level (front speakers) with the volume control on the amplifier connected to this unit.

6 Press TEST to stop the test signal.



Enjoying with SURROUND or 3 STEREO

Before trying anything, have you set the center mode and adjusted speaker output level?

1 **Press PRO LOGIC to turn on the Dolby Pro Logic systems and select the desired mode.**

2 **Select the desired source and start the desired source.**

Note

When employing SURROUND, use software which has been recorded with Dolby Surround.

To turn off the Dolby Pro Logic systems

Press OFF/ON.

Press once again to turn it on.

A To enjoy the THEATER EFFECT

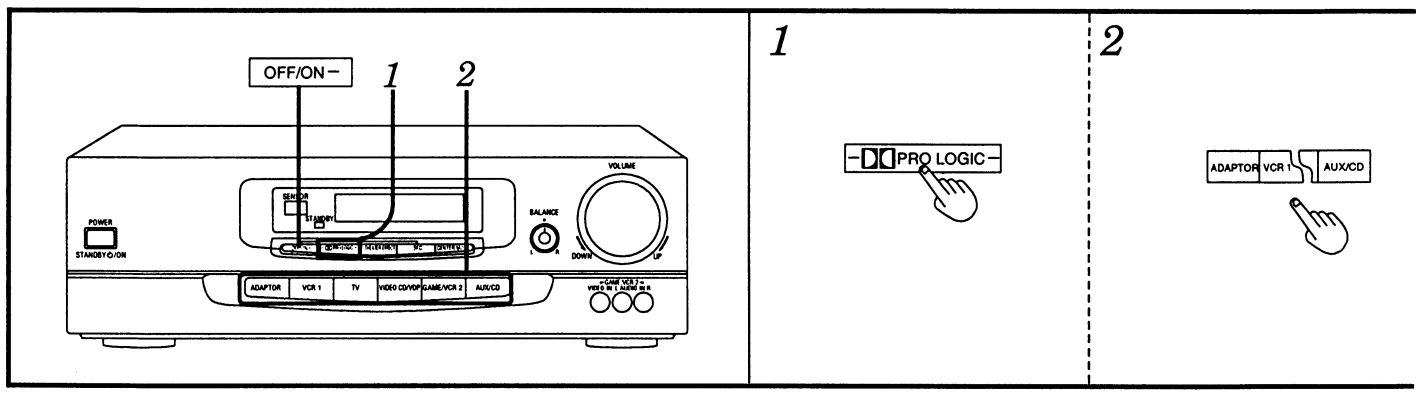
Use only video software recorded in Dolby surround.

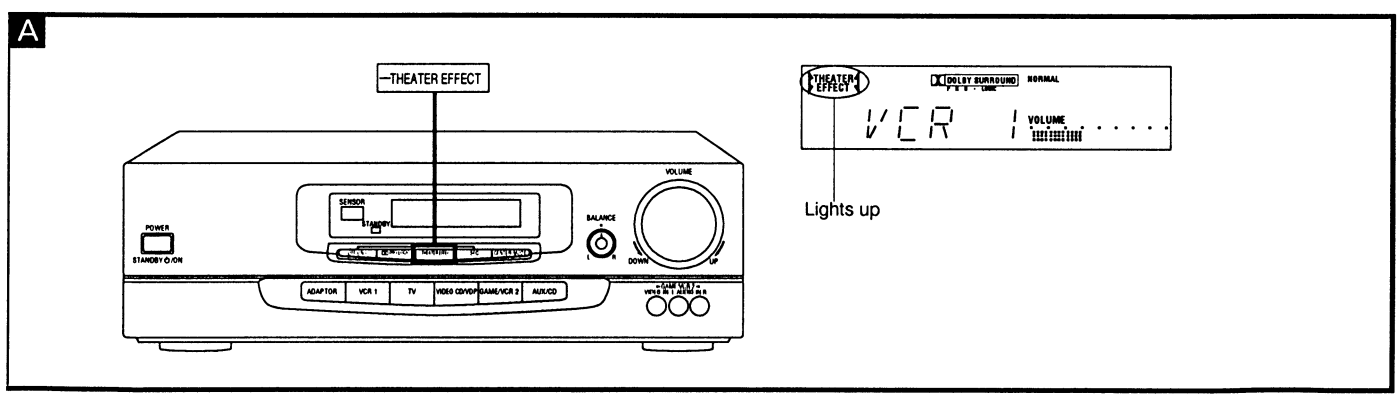
Note

The THEATER EFFECT works only in the surround mode.

Select the surround mode in step 1 above, and then press THEATER EFFECT.

Press once again to turn it off.





■ Operation Check and Main Component Replacement Procedures

NOTE

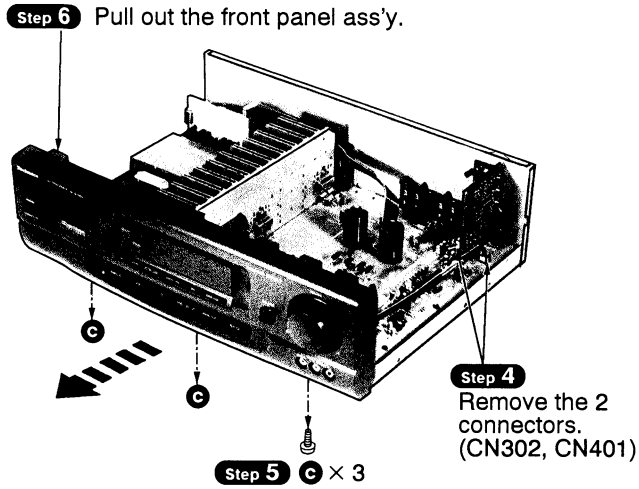
1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Illustrated screws are equivalent to actual size.**
5. **Refer the parts No. on the page of "Main Component Replacement Procedures", if necessary.**

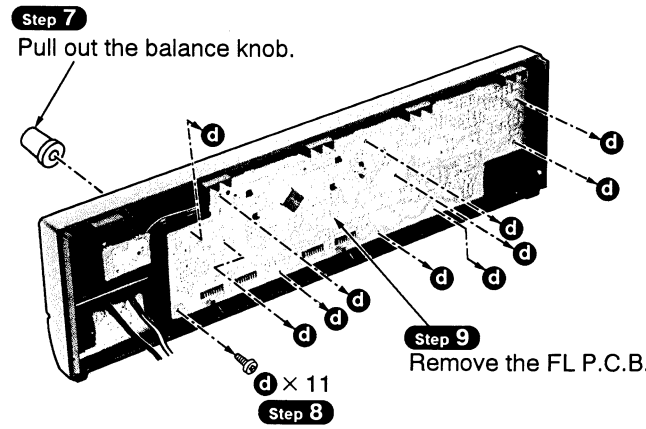
• Contents

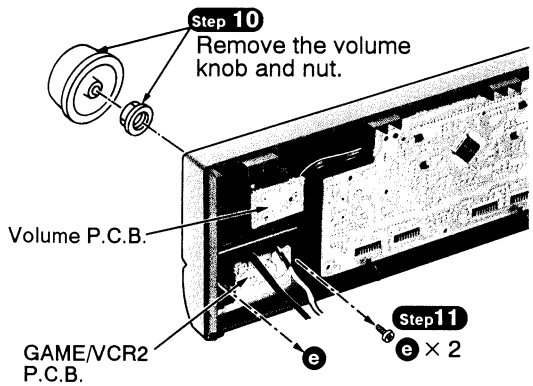
•Checking Procedure for each P.C.B. Page.

1.Checking for the FL P.C.B. and IN/OUT terminal P.C.B.. ••••••

To remove each P.C.B.

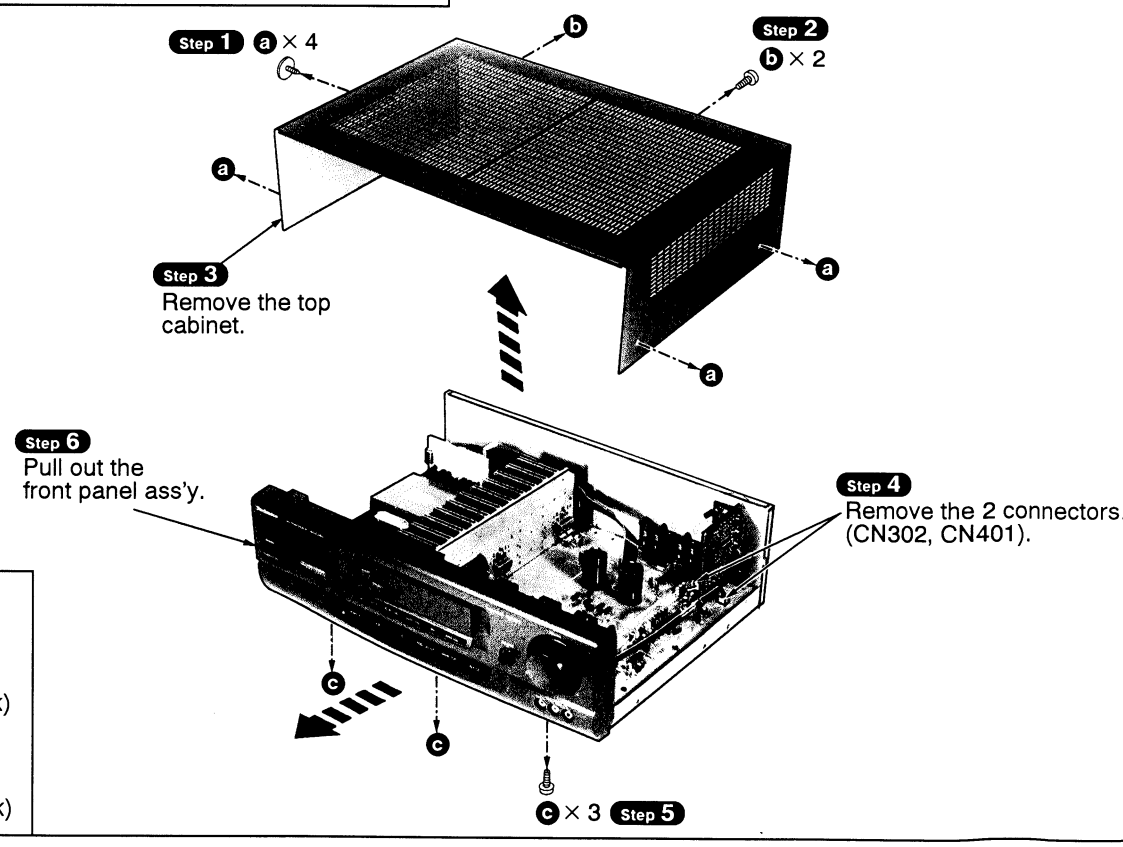




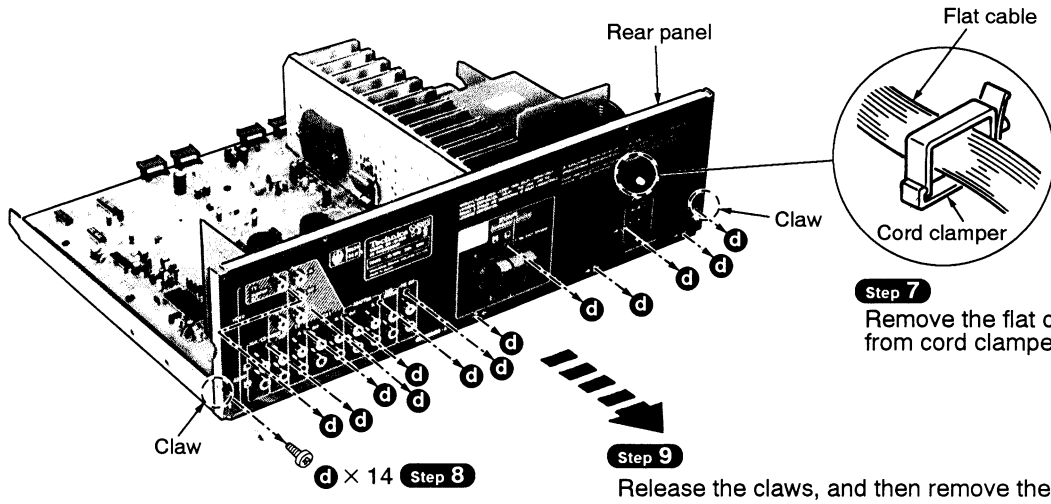


c
[XTBS3+8JFZ1](Black)
d, e
[XTBS26+8J]

2. Checking for the main P.C.B.

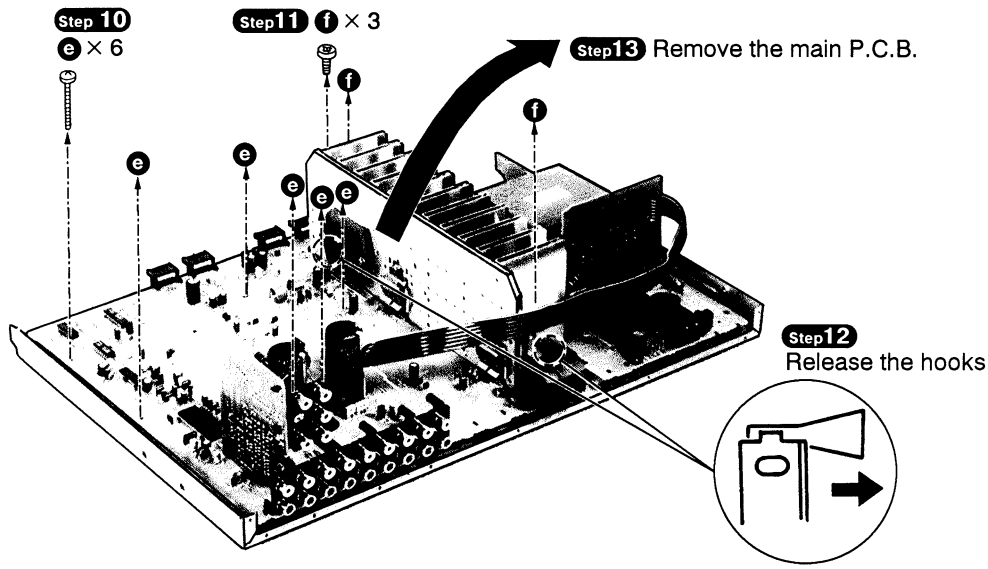


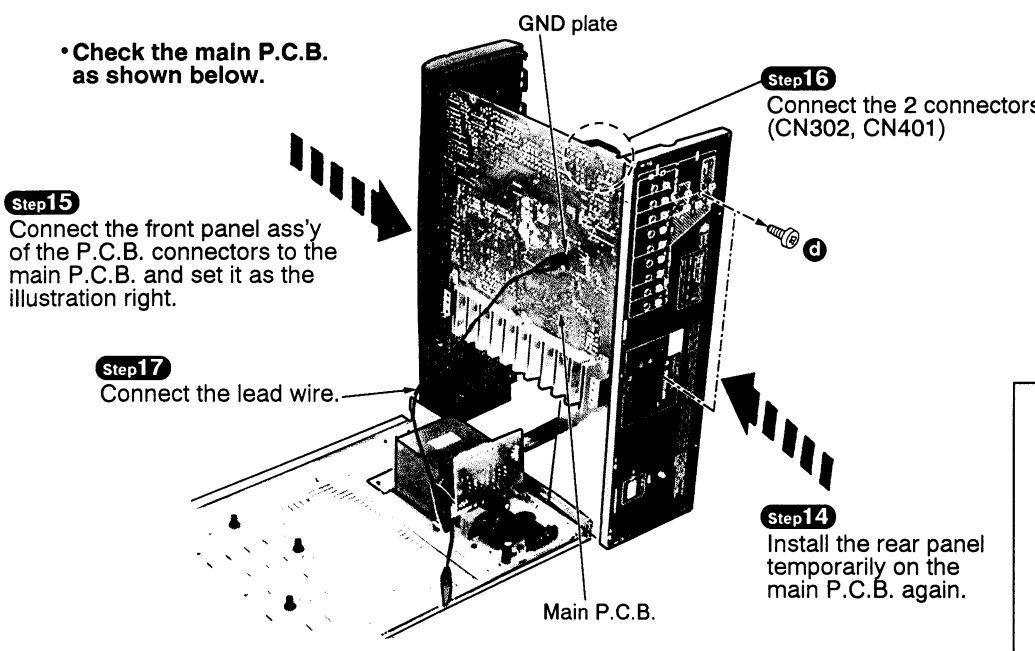
a
[RHD30035-K1](Black)
b, c
[XTBS3+8JFZ1](Black)

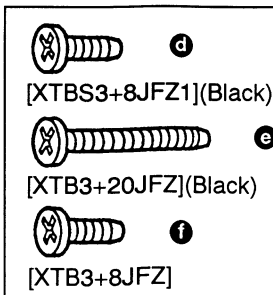


Step 7
Remove the flat cable from cord clamper.

Step 9
Release the claws, and then remove the rear panel.



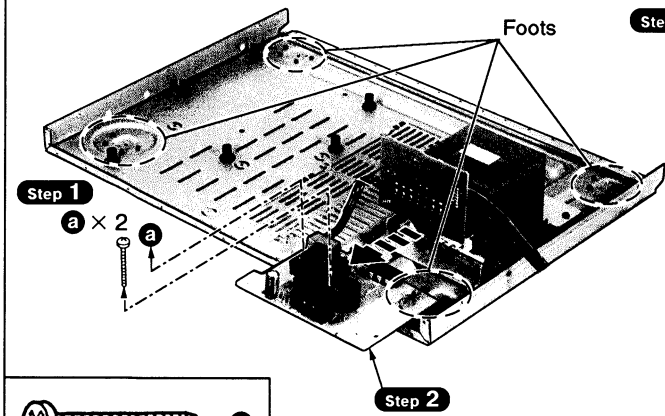

• Check the main P.C.B. as shown below.
GND plate
Step16
Connect the 2 connectors (CN302, CN401)
Step15
Connect the front panel ass'y of the P.C.B. connectors to the main P.C.B. and set it as the illustration right.
Step17
Connect the lead wire.
Step14
Install the rear panel temporarily on the main P.C.B. again.
Main P.C.B.



■ Main Component Replacement Procedures

1. Replacement of the foot

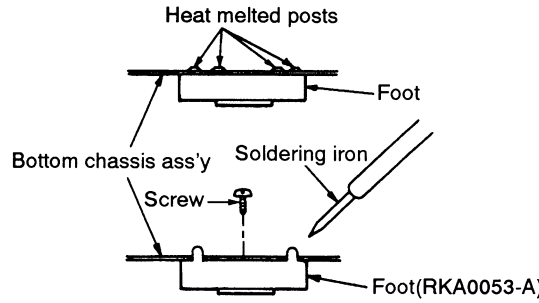
• Follow the Step 1 ~ Step 13 in item 2 on checking procedure for each P.C.B. on pages 12 and 13.



Step 2 Remove the power supply P.C.B.

Step 3 Remove the 4 heat melted posts on the Bottom chassis ass'y with a pair of nippers or similar tool.

Step 4 To replace the foot(RKA0053-A) on the Bottom chassis ass'y melt the 4 posts with a soldering iron or install it with a screw (XTB3+6J).

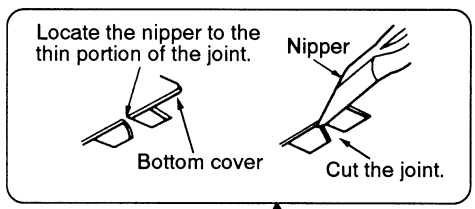


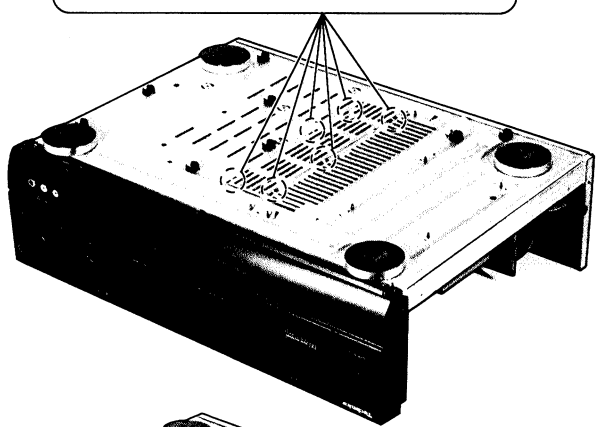
[XTB3+20JFZ](Black)

2. Replacement for the power IC and regulator transistor

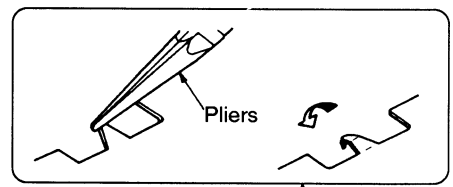
• Follow the Step 1 ~ Step 3 in item 1 on checking procedure for each P.C.B. on page 11.

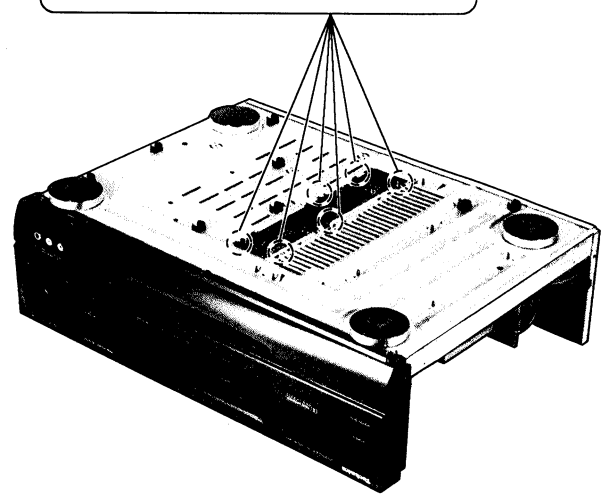
Step 1 Cut the joints as shown below.(6 portions)

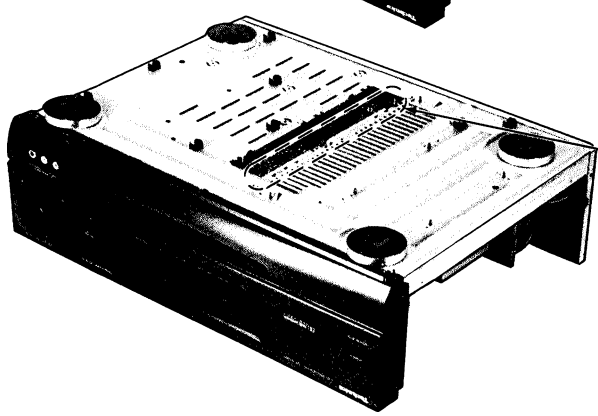




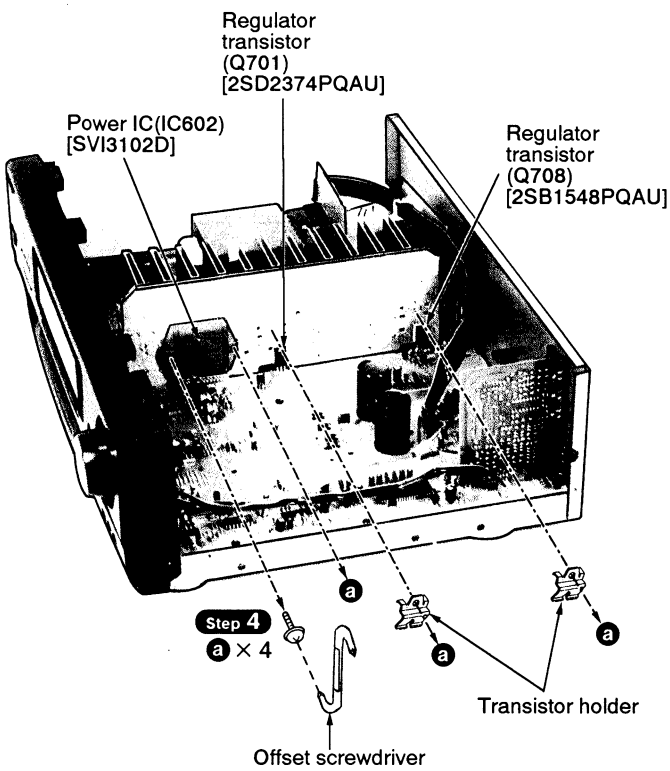
Step 2 Fold the joints.(6 portions)



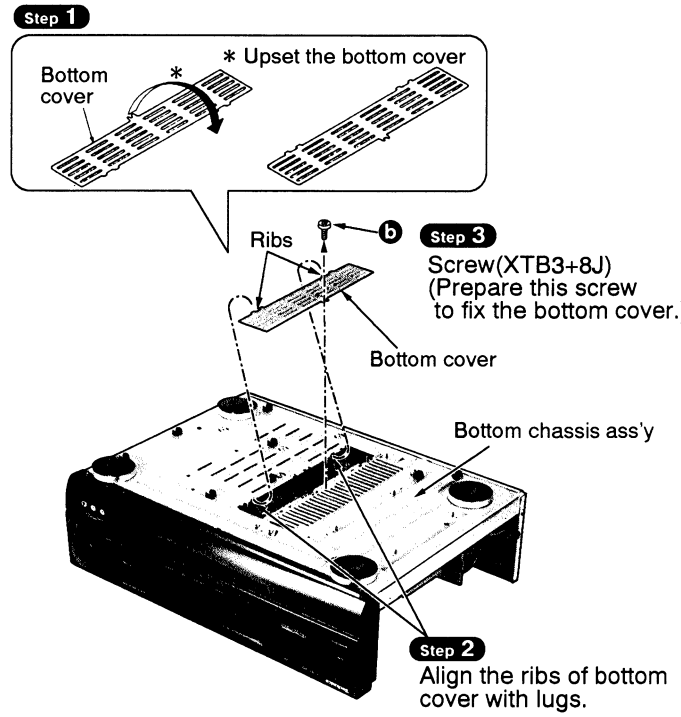




Step 3 Unsolder the terminals of power IC and regulator transistor.



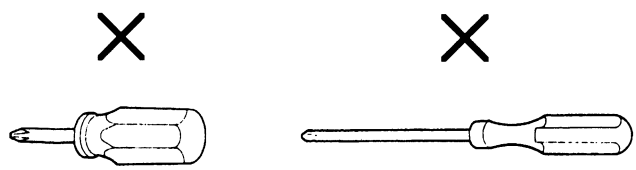
Installation of the bottom cover after replacement



CAUTION

1. After replceing the power IC or regulator transistor,apply a sufficient quantity of compound grease (RFKX0002) between the heat sink and the power IC or regulator transistor (Radiation of power IC).
2. Tighten enough the screws (ⓐ) after replacing the power IC and regulator transisitor. Otherwise, the heat rabiation works little.
3. When installing or removing the power IC or transistor holder, be sure to use an offset screwdriver.

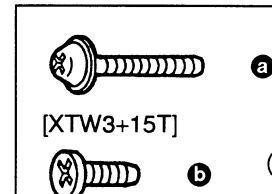
- A long straight screwdriver canniot be used for removal or mounting since its long grip interferes wiht the neighboring P.C.B.(See Fig.1)
- A short straight screwdriver may be used for removal, but cannot be used for mounting because the limited space in the unit will not allow sufficient tightening torque. (See Fig.2)



A short straight screwdriver　　A long straight screwdriver

Fig.2

- Insufficient tightening will cause poor heat dissipation from the power IC and regulator transistor and, in the worst case, may lead their thermal breakdown. (See Fig.2)



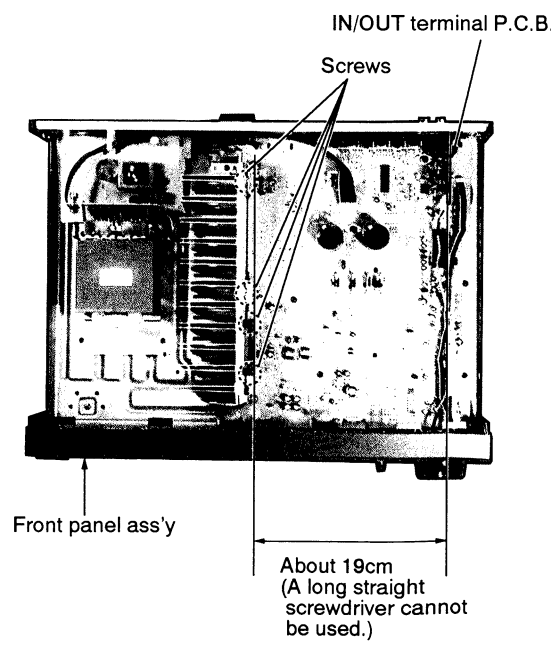
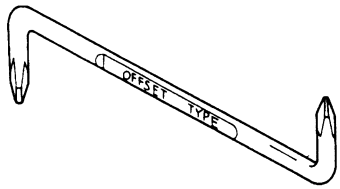


Fig.1

——OFFSET SCREWDRIVER——

- The PROTO offset screwdriver No.34-¼ is recommended for use in the application above.



No.	⊕	⟷ L ⟷
34¼	1 & 2	4¾″

- The address of PROTO International Sales is as follows.

PROTO®

International Sales

International Sales Office
Stanley-Proto Industrial Tools
14117 Industrial Park Blvd.
Covington, GA 30209 U.S.A.
Fax: 706-786-4387
Phone: 706-787-3800

Australia, New Zealand & South Pacific
Stanley-Proto Industrial Tools
P.O.Box 10
400 Whitehorse Road
Nunrweding 3131
Victoria, Australia
Fax: 61-3-894-1173
Phone: 61-3-878-9244

Singapore, Indonesia, Philippines, Korea, Hong Kong, Malaysia, China.
Stanley-Proto Asia Pacific
12 Gul Drive
Singapore 2262
Fax: 65-861-3206
Phone: 65-862-0883

Thailand
Stanley-Proto Thailand Ltd.
1017 Moo 13 Bangnatrad Highway, Tambol Bankaew
Amphur Bangplee
Samutprakarn, Thailand
Fax: 66-2-316-6071
Phone: 66-2-316-8655

Japan
Stanley Works Japan
2-7-16 Hyakunin-Cho
Shinjuku-ku
Tokyo 160 Japan
Fax: 81-3-3360-8456
Phone: 81-3-3360-8458

Mexico
Herramientas Stanley S.A. DE C.V.
Apartado Postal 675
72030 Puebla, Pue, Mexico
Fax: 52-22-494-4880
Phone: 52-22-495-300

South & Central America, Puerto Rico, The Caribbian
Stanley Inter-America
2101 N.W. 84th Ave.
Miami, Florida 33122
Fax: 305-594-4261
Phone: 305-591-3828

Europe
Stanley-Proto Europe
Woodside, Sheffield
539PD
England
Fax: 44-742-739-038
Phone: 44-742-768-888

Canada
Stanley-Proto Canada
1100 Corporate Drive
Burlington, Ontario
Canada, L7L 5R6
Fax: 416-335-0075
Phone: 416-335-0075

Middle East, Mediterranean & Africa
Stanley-MEMA
Cory House The Rlng
Bracknell Berkshire
RG 12 1A2
England
Fax: 44-344-485-526
Phone: 44-344-51813

■ Schematic Diagram

		Page
A	FL CIRCUIT	18, 19
B	VOLUME CIRCUIT	18
C	GAME/VCR 2 CIRCUIT	20
D	IN/OUT TERMINAL CIRCUIT	20
E	MAIN CIRCUIT	21~26
F	POWER SUPPLY CIRCUIT	26
G	POWER TRANSFORMER CIRCUIT	26

- **This schematic diagram may be modified at any time with the development of new technology.**

Notes:

- **S901** : Power "STANDBY ⏻ /ON" switch (POWER, STANDBY ⏻ /ON)
- **S902** : Input selector (ADAPTOR) switch
- **S903** : DOLBY PRO LOGIC/SFC OFF ON switch (OFF/ON)
- **S904** : DOLBY PRO LOGIC mode select switch (DD PRO LOGIC)
- **S905** : Theater effect ON/OFF switch (THEATER EFFECT)
- **S906** : SFC mode select switch (SFC)
- **S907** : Center mode select switch (CENTER MODE)
- **S911** : Input selector (AUX/CD) switch
- **S912** : Input selector (GAME/VCR 2) switch
- **S913** : Input selector (VIDEO CD/VDP) switch
- **S914** : Input selector (TV) switch
- **S915** : Input selector (VCR 1) switch
- **VR551** : Balance control (BALANCE)
- **VR901** : Volume control (VOLUME)

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
  No mark: Power ON

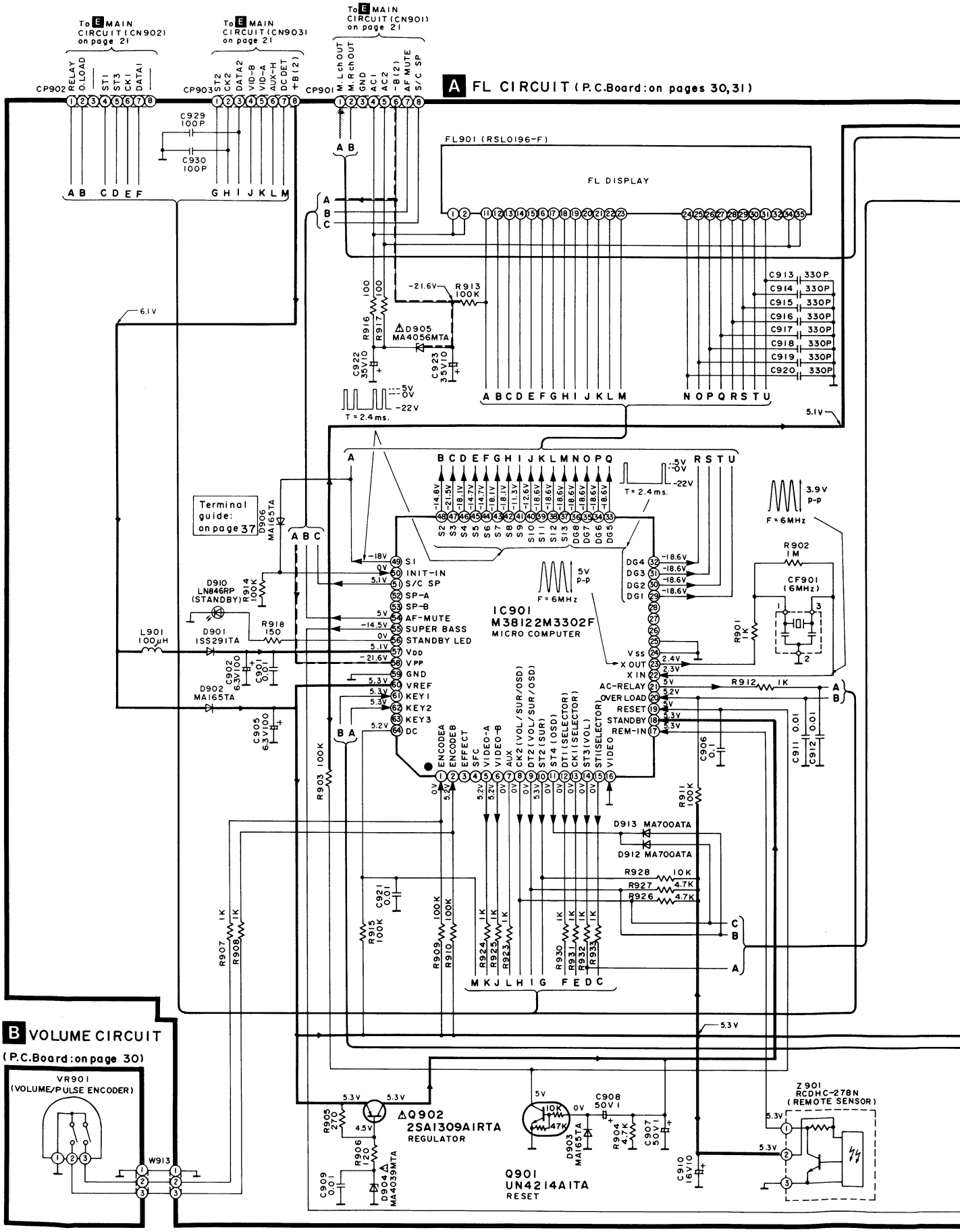
- Voltage and signal line
  : REC OUT Signal (Lch)
  : Surround SP. Drive Signal
  : Center SP. Drive Signal
  : AUX/CD (Source, Lch) Signal Line
  : Positive Voltage Line
  : Negative Voltage Line

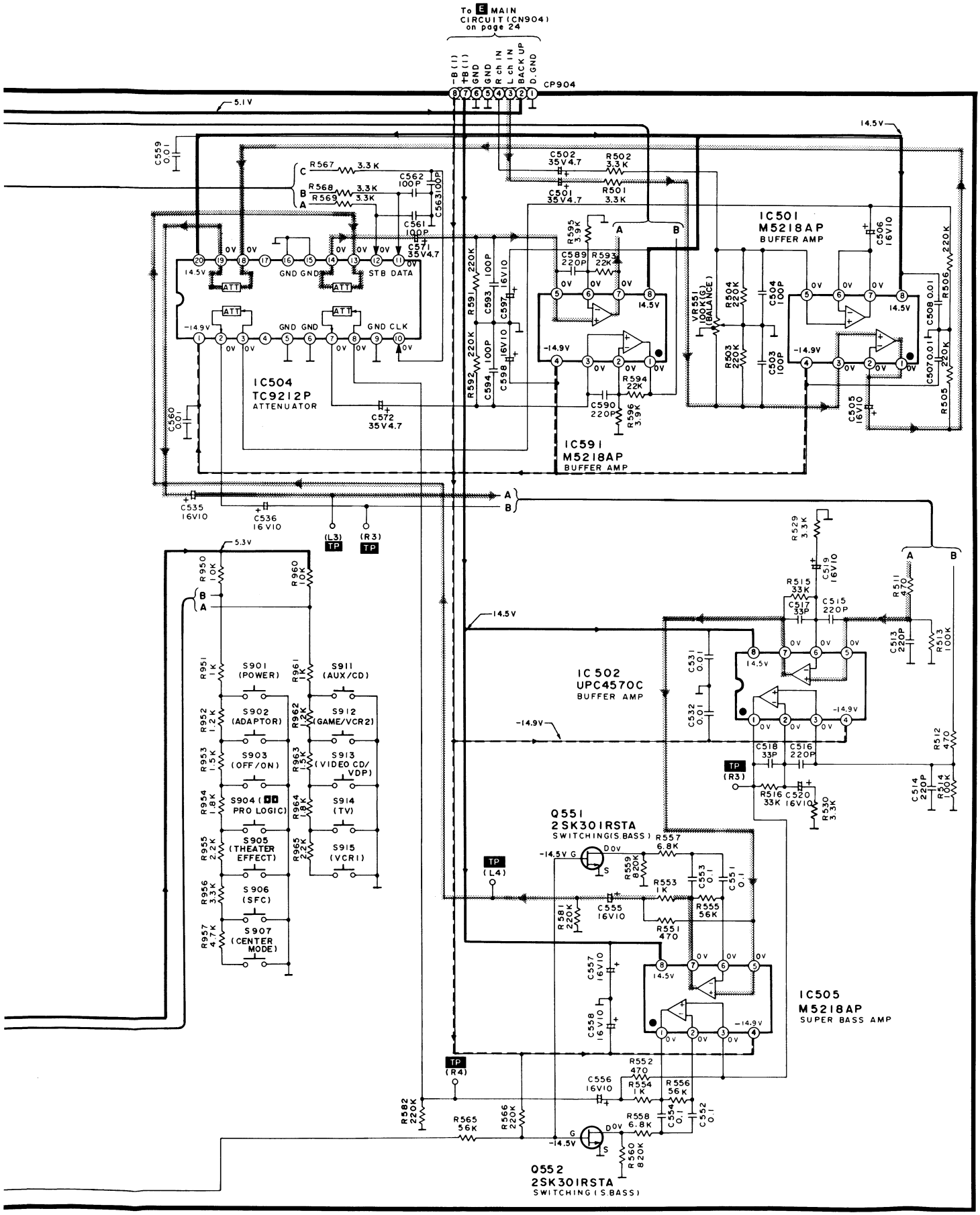
- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

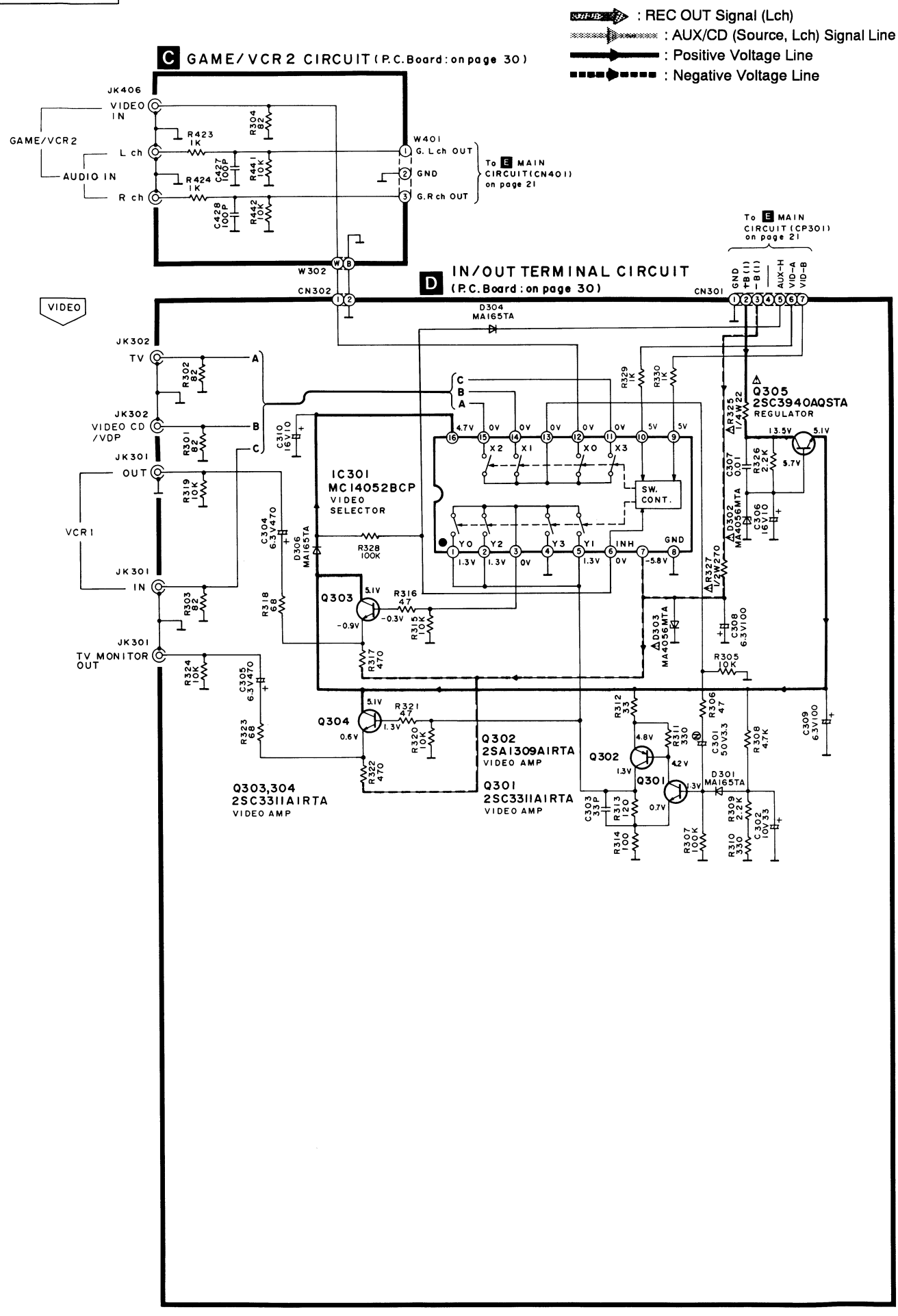
- **Caution!**
  IC and LSI are sensitive to static electricity.
  Secondary trouble can be prevented by taking care during repair.
  Cover the parts boxes made of plastics with aluminum foil.
  Ground the soldering iron.
  Put a conductive mat on the work table.
  Do not touch the legs of IC or LSI with the fingers directly.

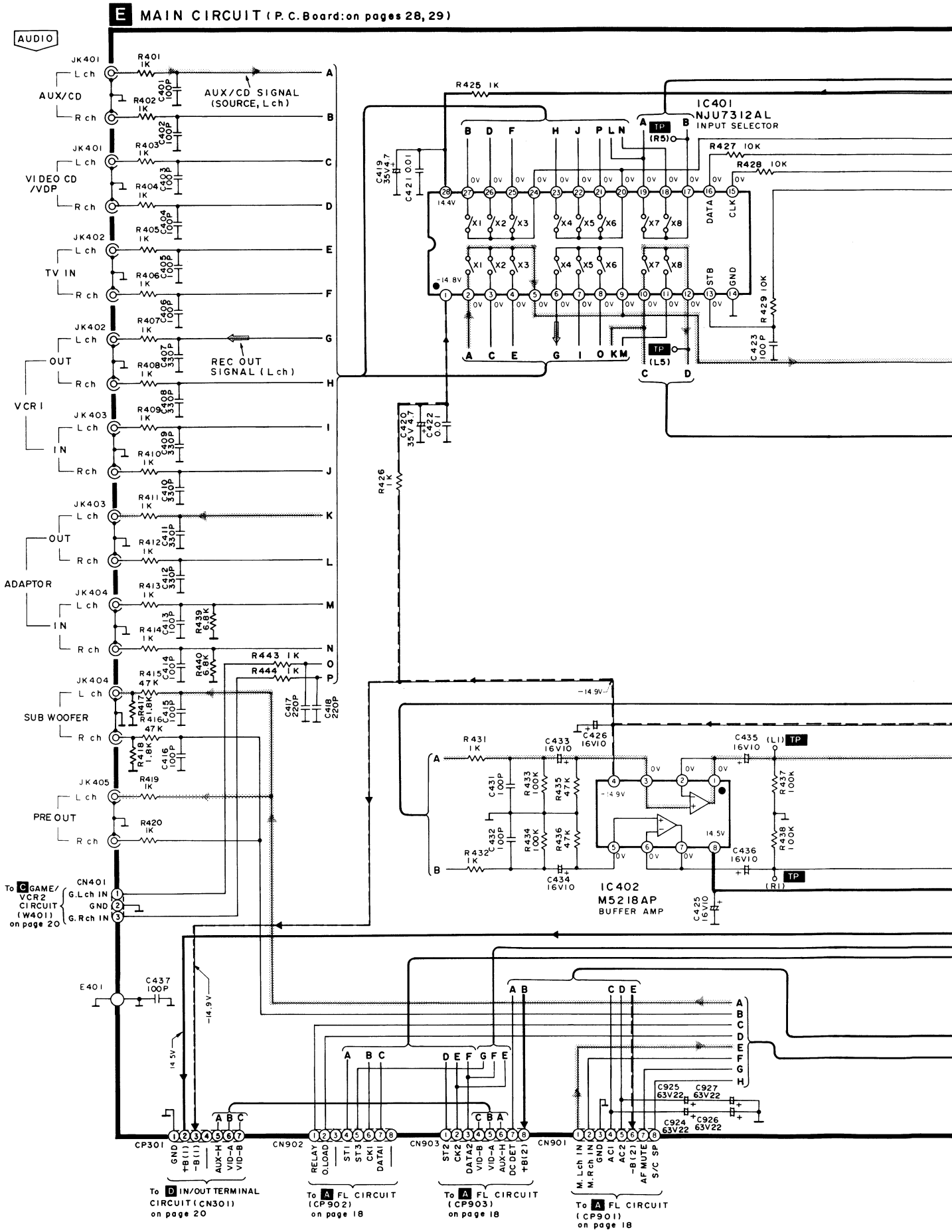
: Positive Voltage Line : Negative Voltage Line

: AUX/CD (Source, Lch) Signal Line

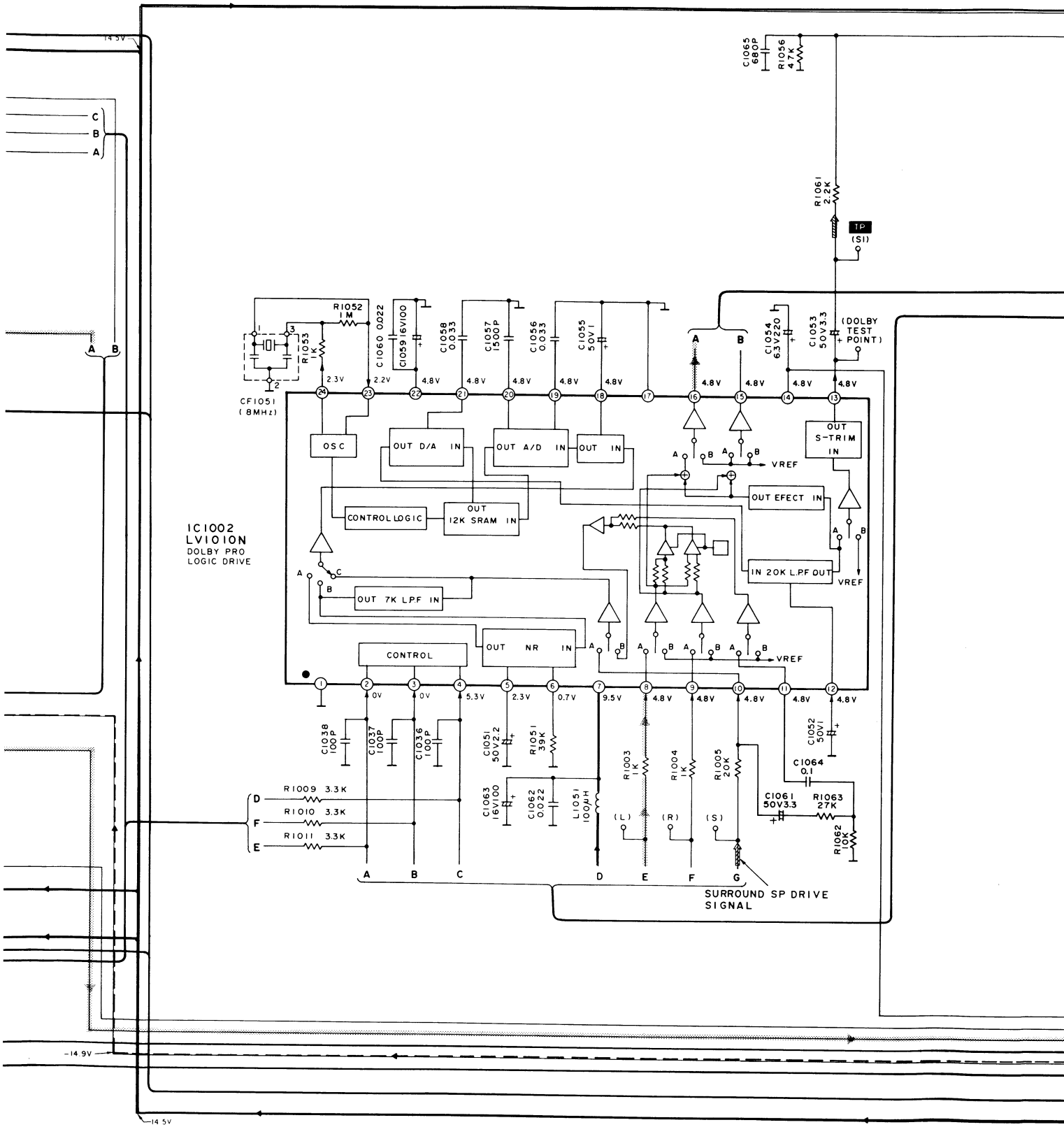



To E MAIN CIRCUIT (CN904) on page 24
CP904
-B (I)
+B (I)
GND
GND
R ch IN
L ch IN
BACK UP
D.GND
5.1V
14.5V
IC501
M5218AP
BUFFER AMP
IC504
TC9212P
ATTENUATOR
IC591
M5218AP
BUFFER AMP
IC502
UPC4570C
BUFFER AMP
IC505
M5218AP
SUPER BASS AMP
Q551
2SK301RSTA
SWITCHING(S.BASS)
Q552
2SK301RSTA
SWITCHING(S.BASS)
S901 (POWER)
S902 (ADAPTOR)
S903 (OFF/ON)
S904 (PRO LOGIC)
S905 (THEATER EFFECT)
S906 (SFC)
S907 (CENTER MODE)
S911 (AUX/CD)
S912 (GAME/VCR2)
S913 (VIDEO CD/VDP)
S914 (TV)
S915 (VCR1)
GND GND
GND CLK
STB DATA
-14.9V
5.3V
0V
TP (L3)
TP (R3)
TP (L4)
TP (R4)

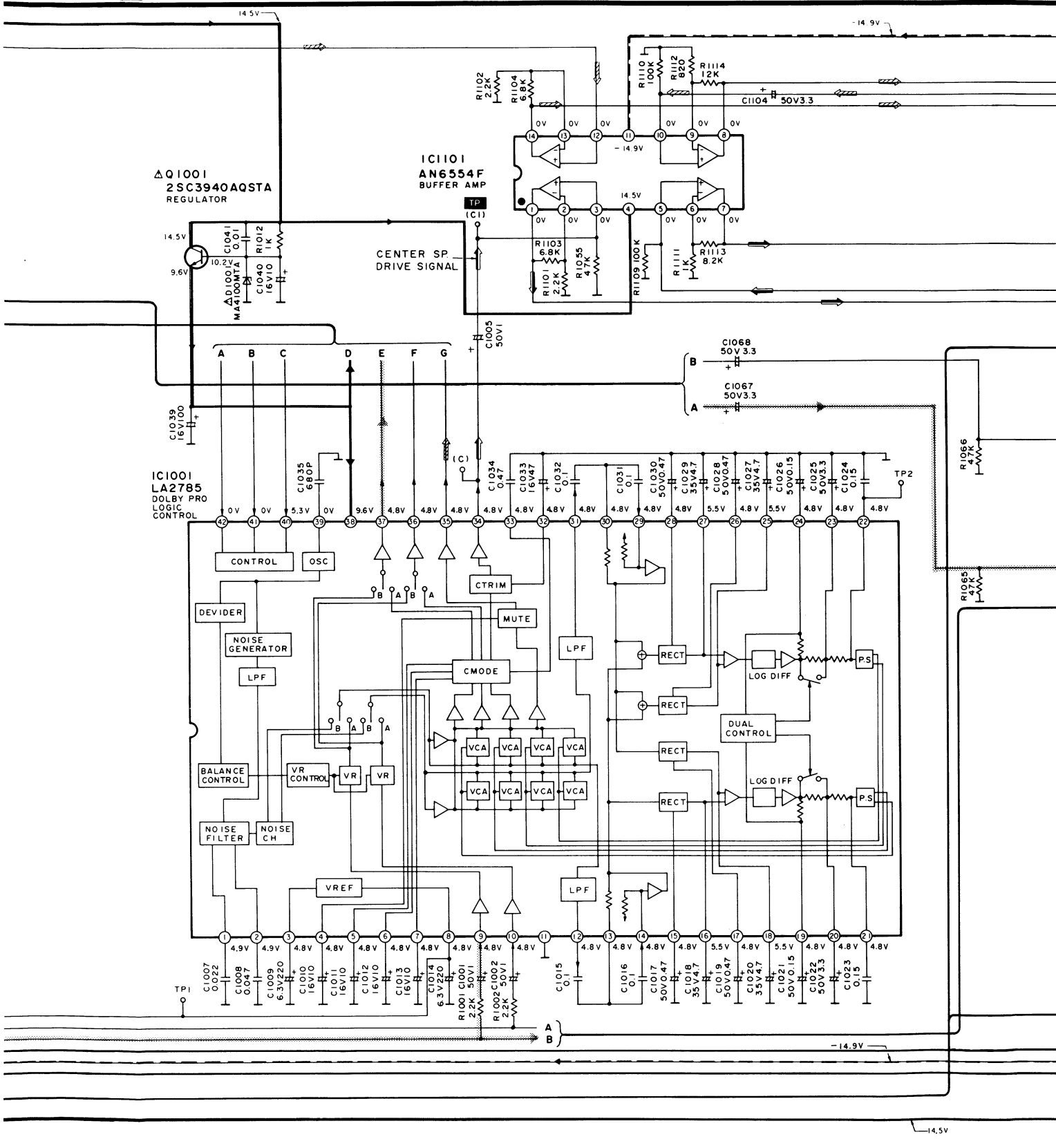

: REC OUT Signal (Lch)
: AUX/CD (Source, Lch) Signal Line
: Positive Voltage Line
: Negative Voltage Line
C GAME/VCR2 CIRCUIT (P.C.Board : on page 30)
JK406
VIDEO IN
GAME/VCR2
L ch
AUDIO IN
R ch
R423 1K
R424 1K
R304 82
C427 100P
C428 100P
R441 10K
R442 10K
W401
G. L ch OUT
GND
G.R ch OUT
To E MAIN CIRCUIT(CN401) on page 21
W302
CN302
D IN/OUT TERMINAL CIRCUIT (P.C.Board : on page 30)
To E MAIN CIRCUIT(CP301) on page 21
CN301
GND
FB(L)
B(L)
AUX-H
VID-A
VID-B
VIDEO
D304 MA165TA
JK302 TV
JK302 VIDEO CD /VDP
JK301 OUT
VCR1
JK301 IN
JK301 TV MONITOR OUT
R302 82
R301 82
R303 82
R319 10K
R324 10K
C310 16V10
C304 6.3V470
C305 6.3V470
D306 MA165TA
R328 100K
R318 68
R323 68
R317 470
R322 470
IC301 MC14052BCP VIDEO SELECTOR
SW. CONT.
R329 1K
R330 1K
Q305 2SC3940AQSTA REGULATOR
R325 1/4W22
C307 0.01
R326 2.2K
C306 16V10
D302 MA4056MTA
R327 1/2W270
D303 MA4056MTA
C308 6.3V100
R305 10K
Q303 2SC3311AIRTA VIDEO AMP
R316 4.7
R315 10K
Q304 2SC3311AIRTA VIDEO AMP
R321 4.7
R320 10K
Q302 2SA1309AIRTA VIDEO AMP
Q301 2SC3311AIRTA VIDEO AMP
R312 33
R311 330
R306 47
C301 50V3.3
R308 4.7K
C309 6.3V100
D301 MA165TA
C303 33P
R313 120
R314 100
R307 100K
R309 2.2K
C302 10V33
R310 330


E MAIN CIRCUIT (P. C. Board: on pages 28, 29)
AUDIO
AUX/CD
VIDEO CD /VDP
TV IN
VCR 1 IN
OUT
ADAPTOR IN
SUB WOOFER
PRE OUT
JK401
JK402
JK403
JK404
JK405
L ch
R ch
R401 1K
R402 1K
R403 1K
R404 1K
R405 1K
R406 1K
R407 1K
R408 1K
R409 1K
R410 1K
R411 1K
R412 1K
R413 1K
R414 1K
R415 47K
R416 47K
R417 1.8K
R418 1.8K
R419 1K
R420 1K
C401 100P
C402 100P
C403 100P
C404 100P
C405 100P
C406 100P
C407 330P
C408 330P
C409 330P
C410 330P
C411 330P
C412 330P
C413 100P
C414 100P
C415 100P
C416 100P
R439 6.8K
R440 6.8K
AUX/CD SIGNAL (SOURCE, L ch)
REC OUT SIGNAL (L ch)
R443 1K
R444 1K
C417 220P
C418 220P
To C GAME/ VCR2 CIRCUIT (W401) on page 20
CN401
G. L ch IN
GND
G. R ch IN
E401
C437 100P
-14.9V
14.5V
R425 1K
IC401
NJU7312AL
INPUT SELECTOR
TP (R5)
TP (L5)
R427 10K
R428 10K
R429 10K
C419 35V4.7
C421 0.01
C420 35V4.7
C422 0.01
C423 100P
R426 1K
DATA
CLK
STB
GND
-14.8V
14.4V
R431 1K
R432 1K
R433 100K
R434 100K
R435 47K
R436 47K
C431 100P
C432 100P
C433 16V10
C434 16V10
C435 16V10
C436 16V10
C425 16V10
C426 16V10
R437 100K
R438 100K
TP (LI)
TP (RI)
IC402
M5218AP
BUFFER AMP
CP301
GND
+B(11)
-B(11)
AUX-H
VID-A
VID-B
To D IN/OUT TERMINAL CIRCUIT (CN301) on page 20
CN902
RELAY
OLOAD
STI
ST3
CKI
DATAI
To A FL CIRCUIT (CP902) on page 18
CN903
ST2
CK2
DATA2
VID-B
VID-A
AUX-H
DC DET
+B(12)
To A FL CIRCUIT (CP903) on page 18
CN901
M. L ch IN
M. R ch IN
GND
ACI
AC2
-B(12)
AF MUTE
S/C SP
To A FL CIRCUIT (CP901) on page 18
C925 63V22
C927 63V22
C924 63V22
C926 63V22

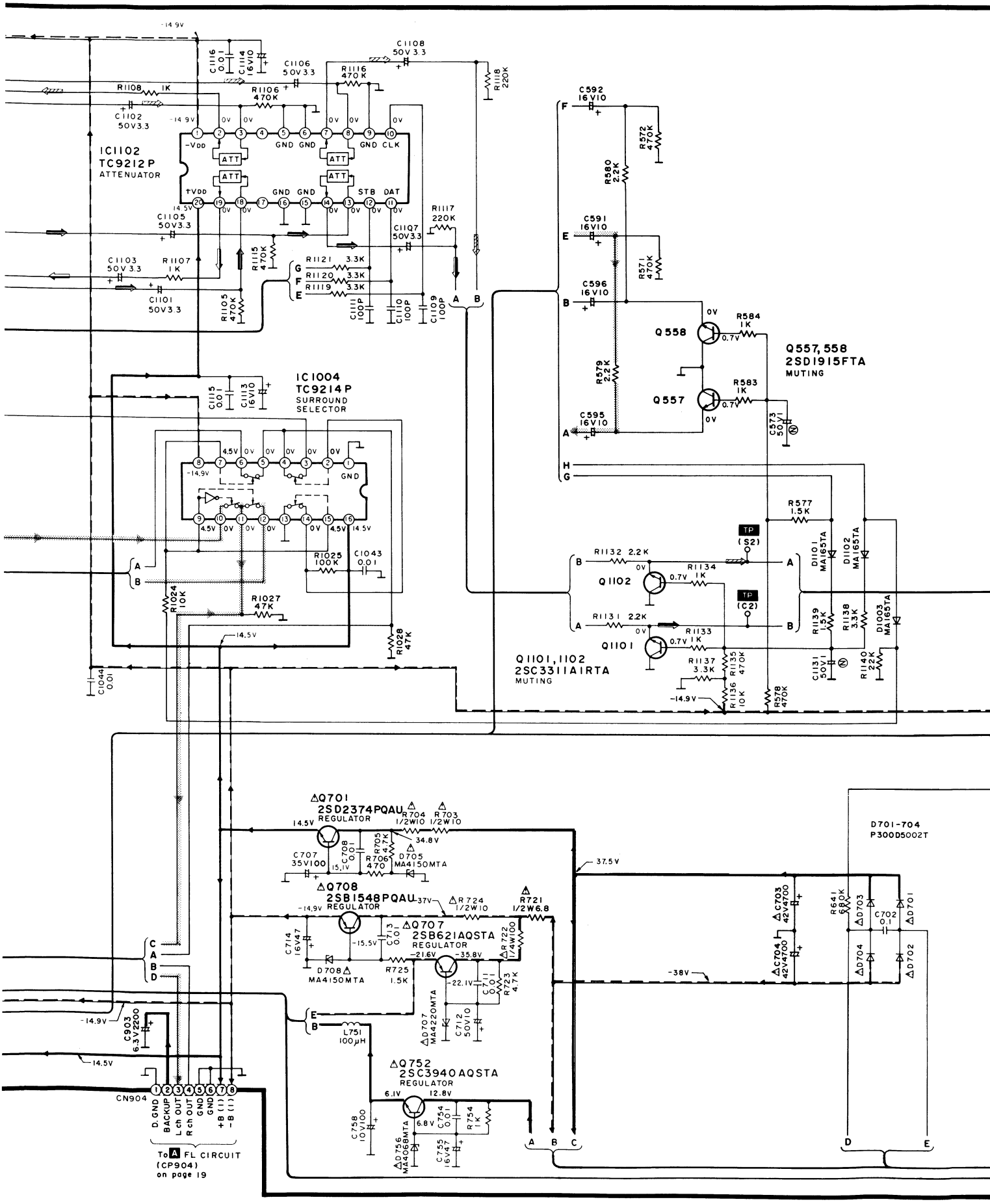
: AUX/CD (Source, Lch) Signal Line
: Surround SP. Drive Signal
: Positive Voltage Line
: Center SP. Drive Signal
: Negative Voltage Line



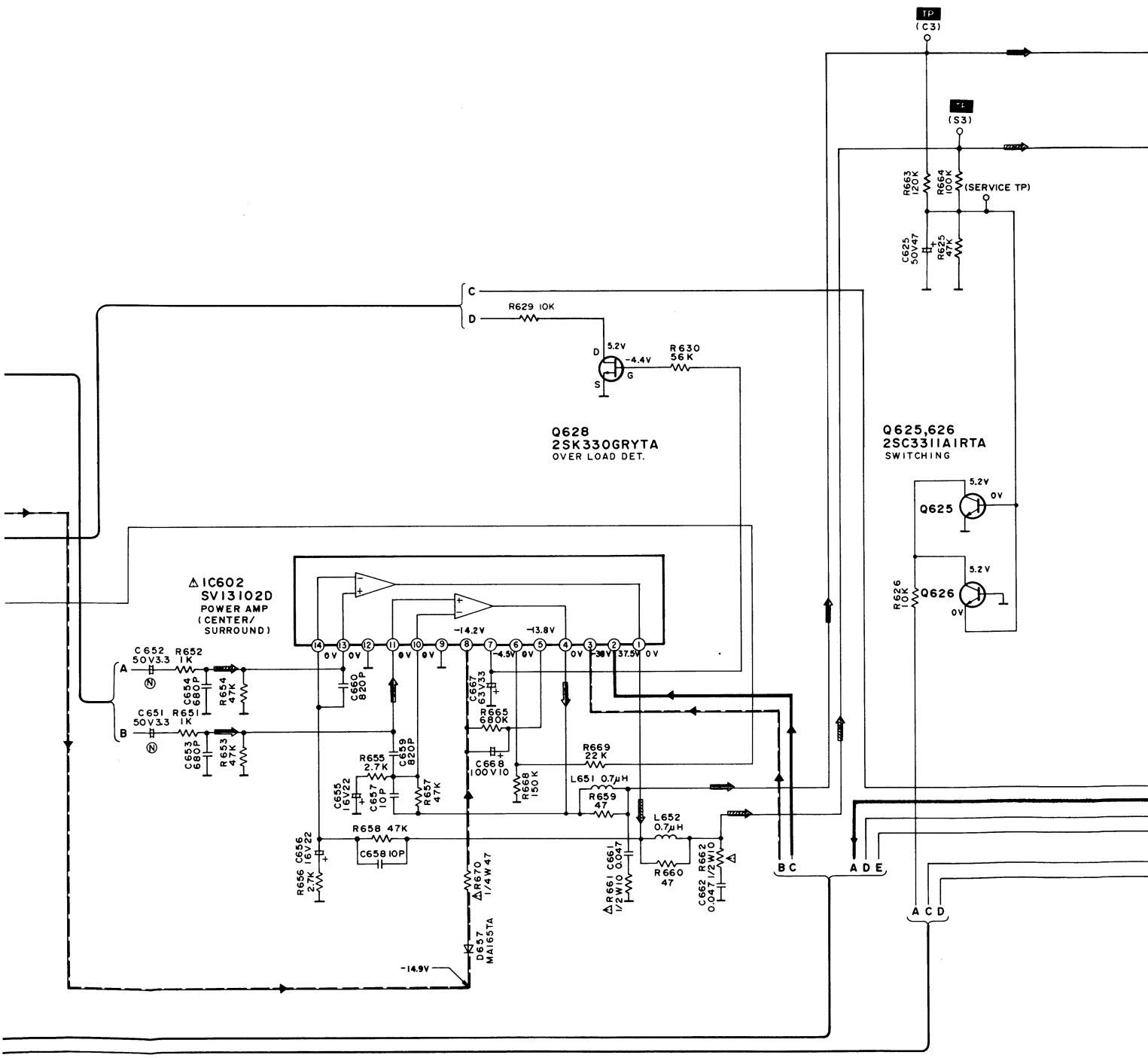
E MAIN CIRCUIT (P. C. Board: on pages 28, 29)

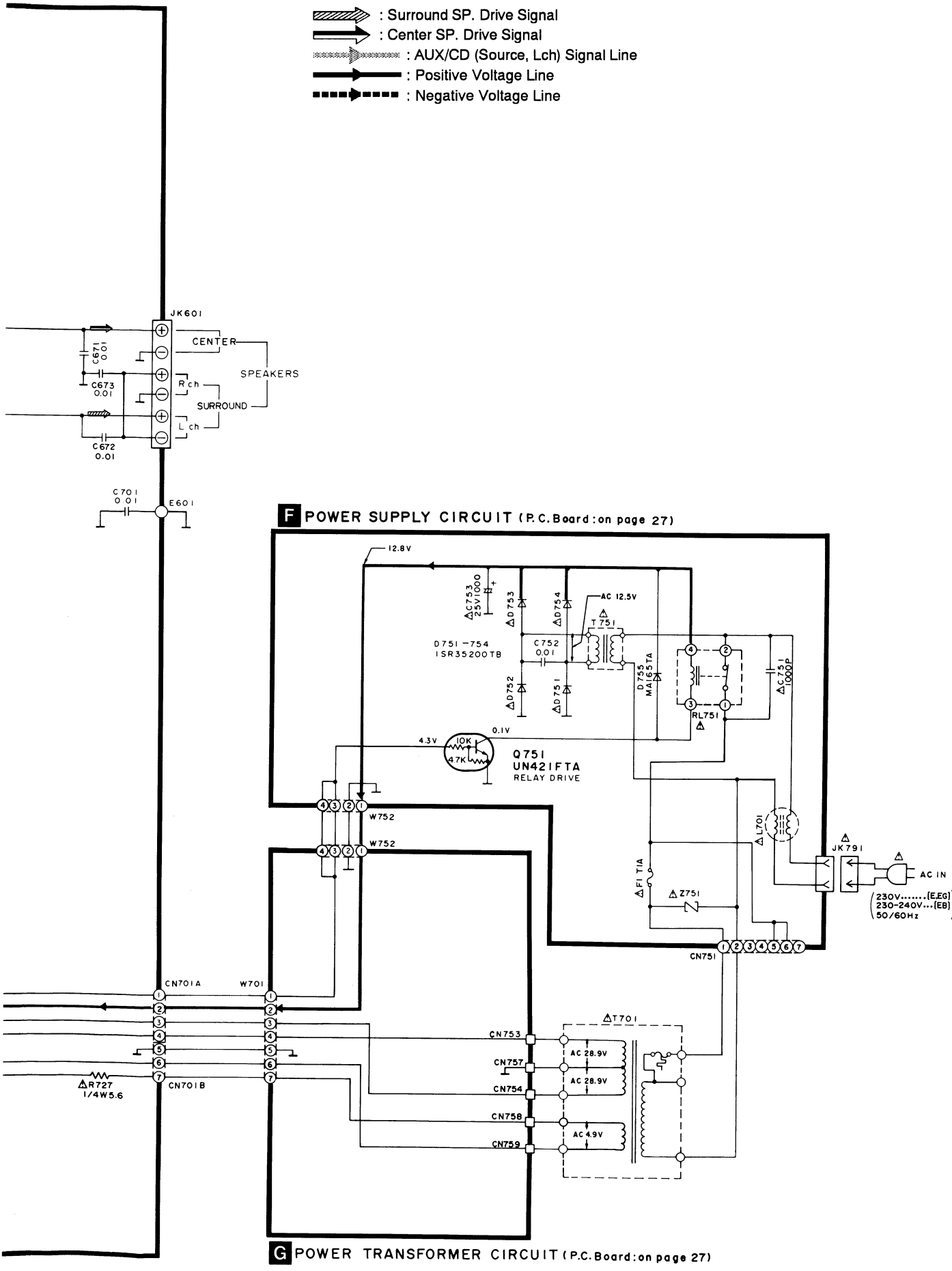


: AUX/CD (Source, Lch) Signal Line
: Surround SP. Drive Signal
: Center SP. Drive Signal
: Positive Voltage Line
: Negative Voltage Line



E MAIN CIRCUIT (P.C.Board : on pages 28, 29)

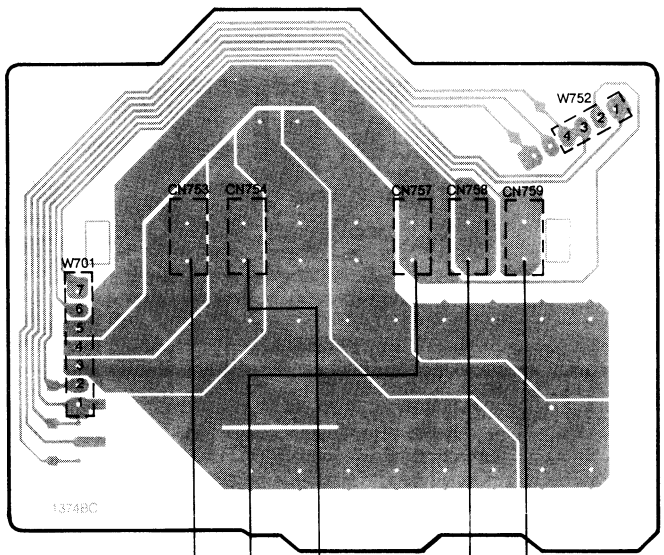


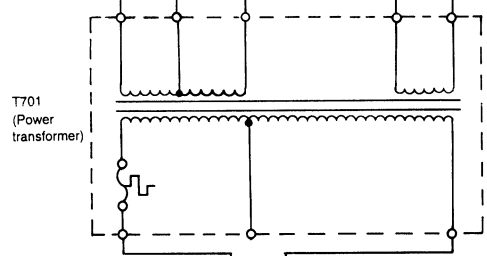

: Surround SP. Drive Signal
: Center SP. Drive Signal
: AUX/CD (Source, Lch) Signal Line
: Positive Voltage Line
: Negative Voltage Line
JK601
CENTER
SPEAKERS
Rch
SURROUND
Lch
C671 0.01
C673 0.01
C672 0.01
C701 0.01
E601
F POWER SUPPLY CIRCUIT (P.C.Board:on page 27)
12.8V
C753 25V1000
D753
D754
AC 12.5V
T751
D751-754 ISR35200TB
C752 0.01
D752
D751
D755 MA165TA
C751 1000P
RL751
0.1V
4.3V
10K
4.7K
Q751 UN421FTA RELAY DRIVE
W752
W752
L701
JK791
AC IN
230V.....(E,EG)
230-240V...(EB)
50/60Hz
FITIA
Z751
CN751
CN701A
W701
T701
CN753
CN757
CN754
CN758
CN759
AC 28.9V
AC 28.9V
AC 4.9V
R727 1/4W5.6
CN701B
G POWER TRANSFORMER CIRCUIT (P.C.Board:on page 27)

■ Printed Circuit Board Diagram

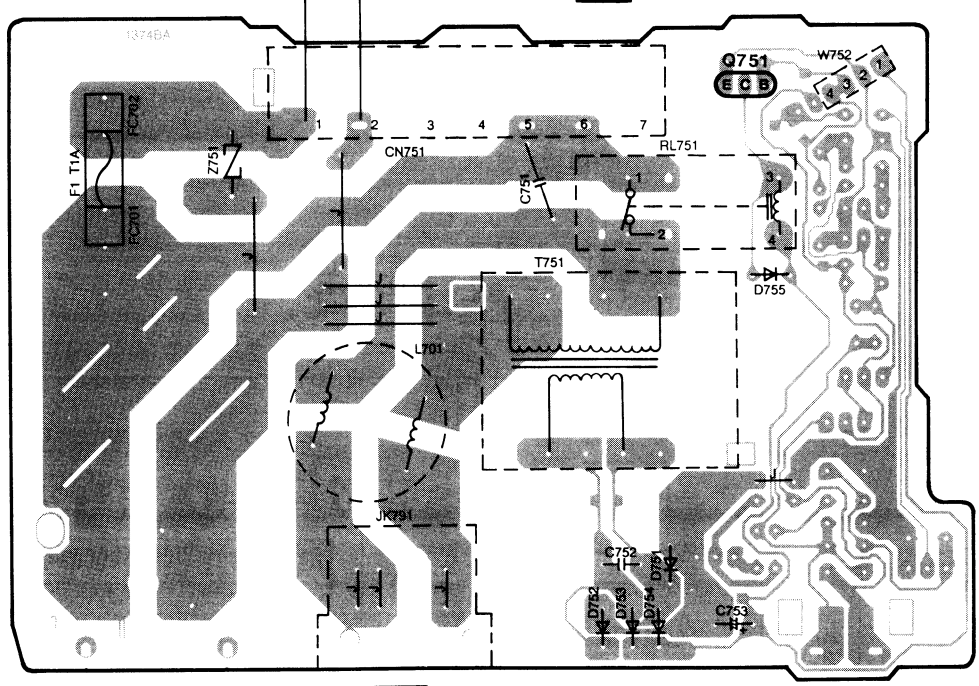
- This circuit board diagram may be modified at any time with the development of new technology.

G POWER TRANSFORMER P.C.B. (REP2034B–P)

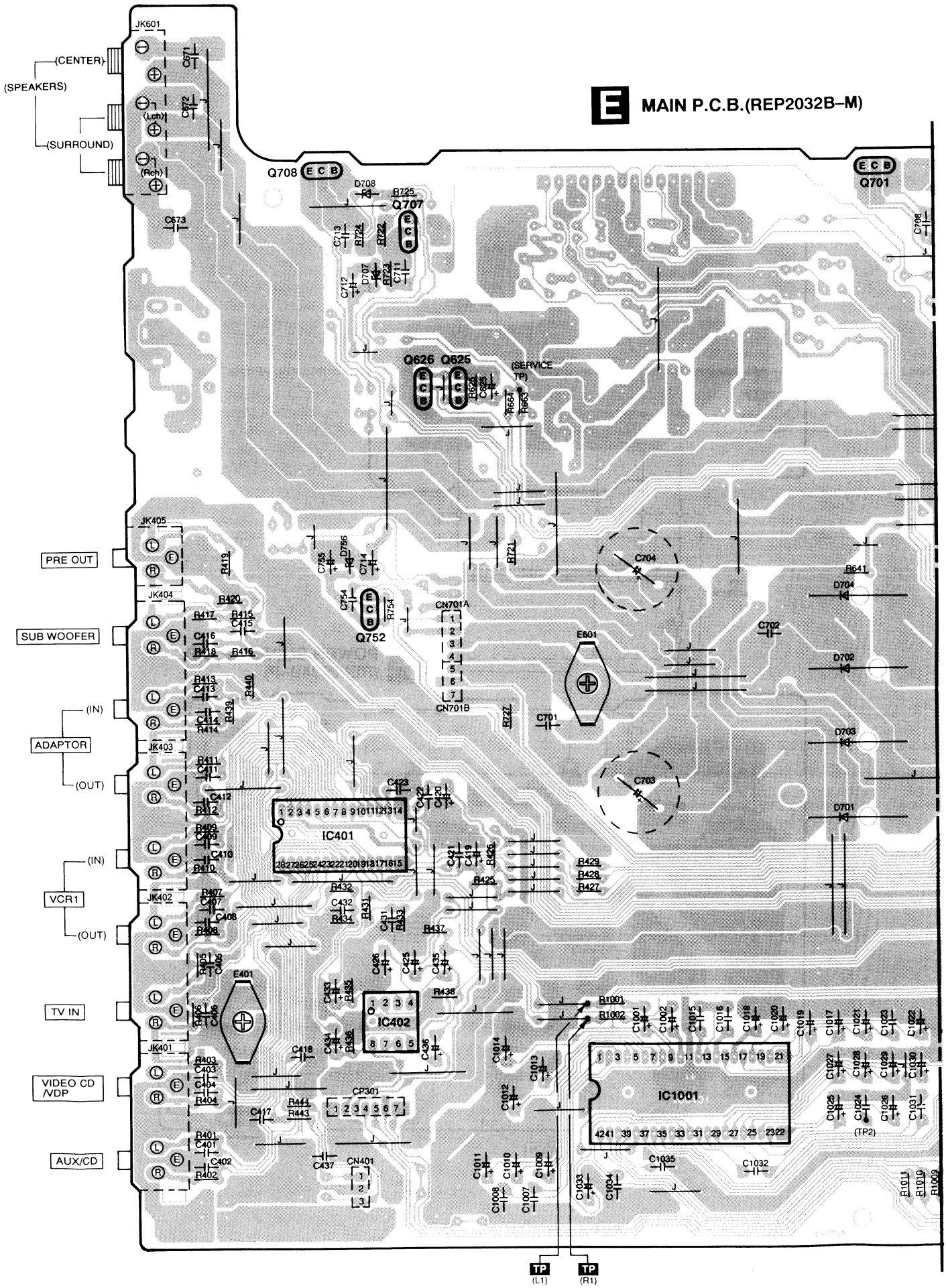


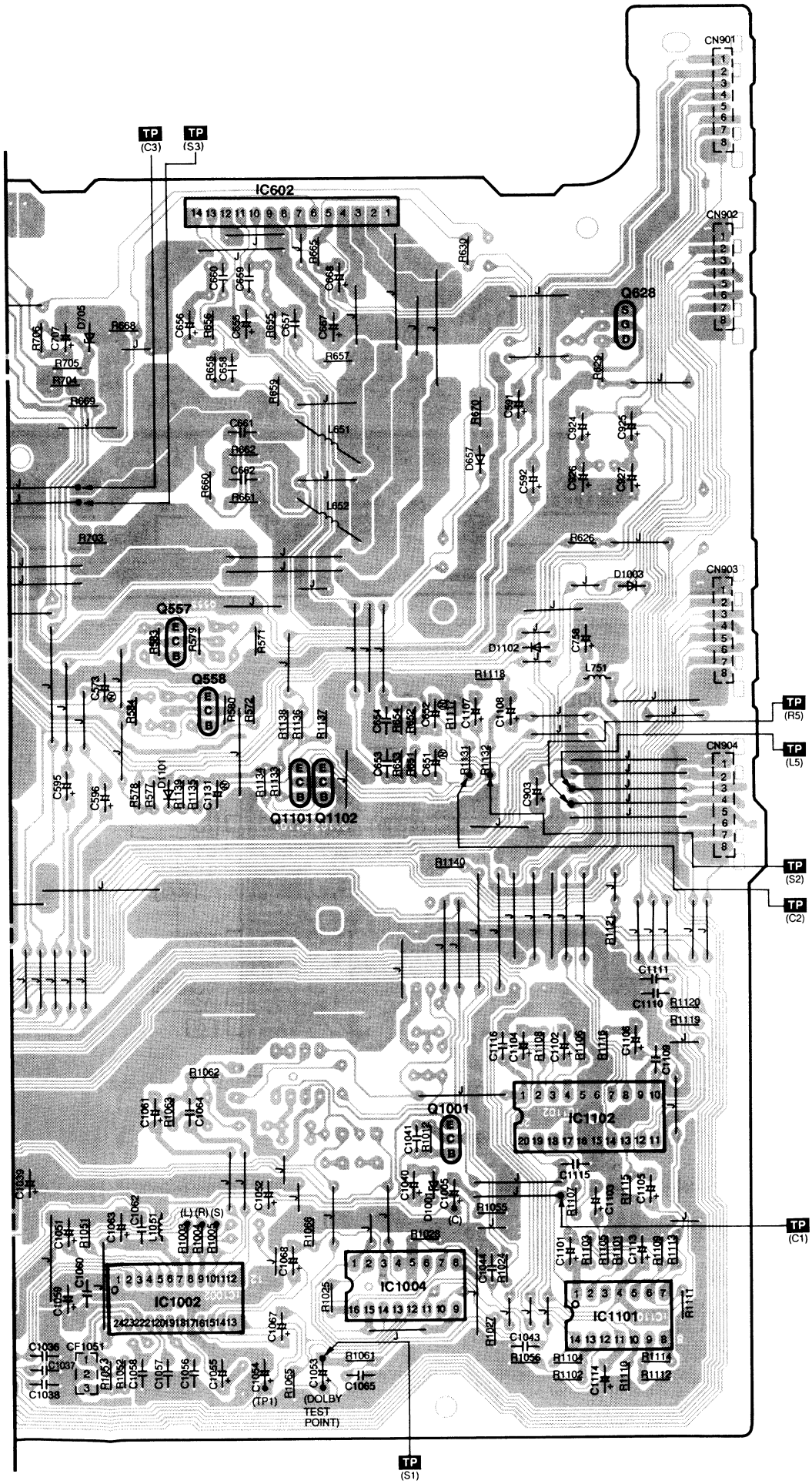


F POWER SUPPLY P.C.B. (REP2034B–P)

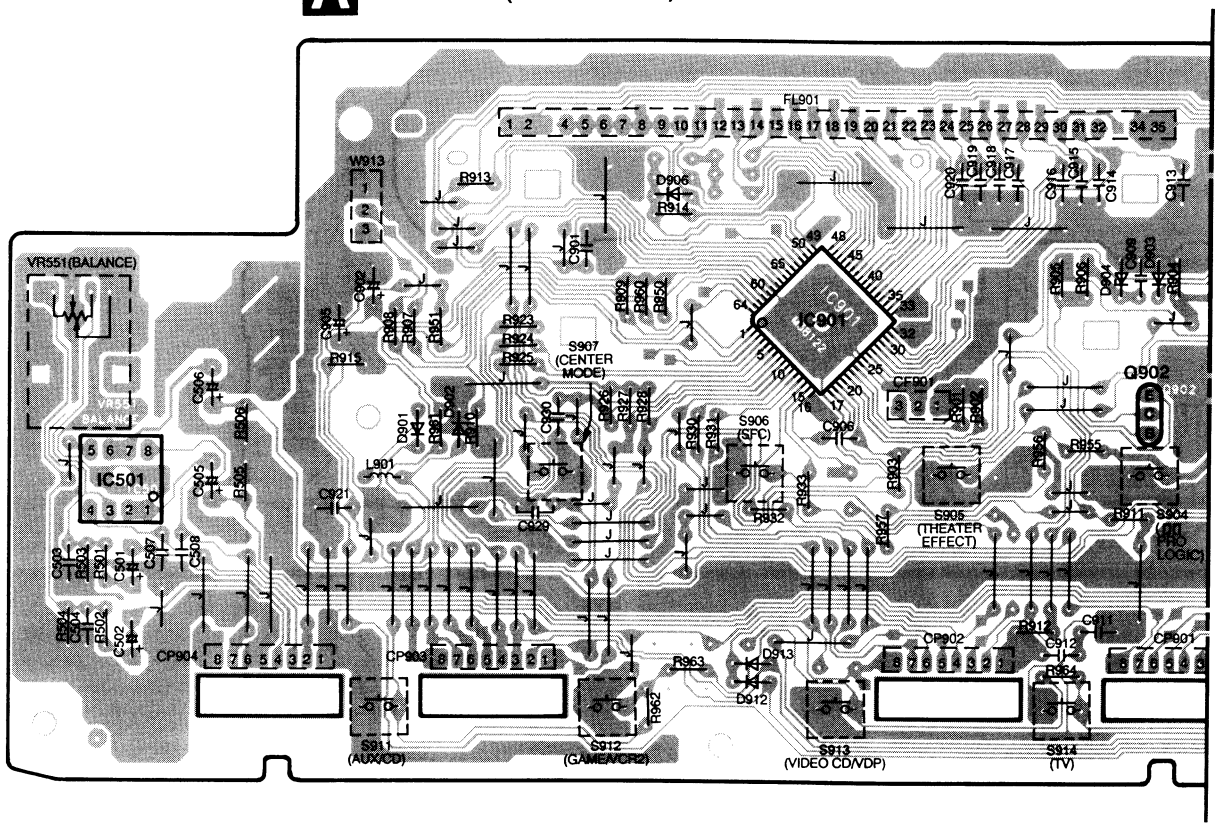


AC IN
(230V.....[E,EG]
230–240V...[EB]
50/60Hz)

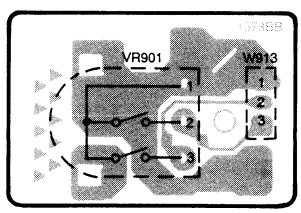

E MAIN P.C.B.(REP2032B–M)
(SPEAKERS)
(CENTER)
(Lch)
(SURROUND)
(Rch)
JK601
PRE OUT
SUB WOOFER
(IN)
ADAPTOR
(OUT)
(IN)
VCR1
(OUT)
TV IN
VIDEO CD /VDP
AUX/CD
JK405
JK404
JK403
JK402
JK401
Q708
Q707
Q701
Q626
Q625
Q752
(SERVICE TP)
CN701A
CN701B
E601
E401
IC401
IC402
IC1001
CP301
CN401
C704
C703
D704
D702
D703
D701
TP (L1)
TP (R1)
(TP2)


TP (C3)
TP (S3)
IC602
CN901
CN902
CN903
CN904
Q628
Q557
Q558
Q1101 Q1102
Q1001
IC1002
IC1004
IC1101
IC1102
TP (R5)
TP (L5)
TP (S2)
TP (C2)
TP (C1)
TP (S1)
(L) (R) (S)
(TP1)
(DOLBY TEST POINT)

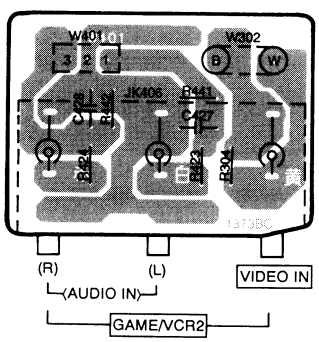
A FL P.C.B. (REP2033B–S)



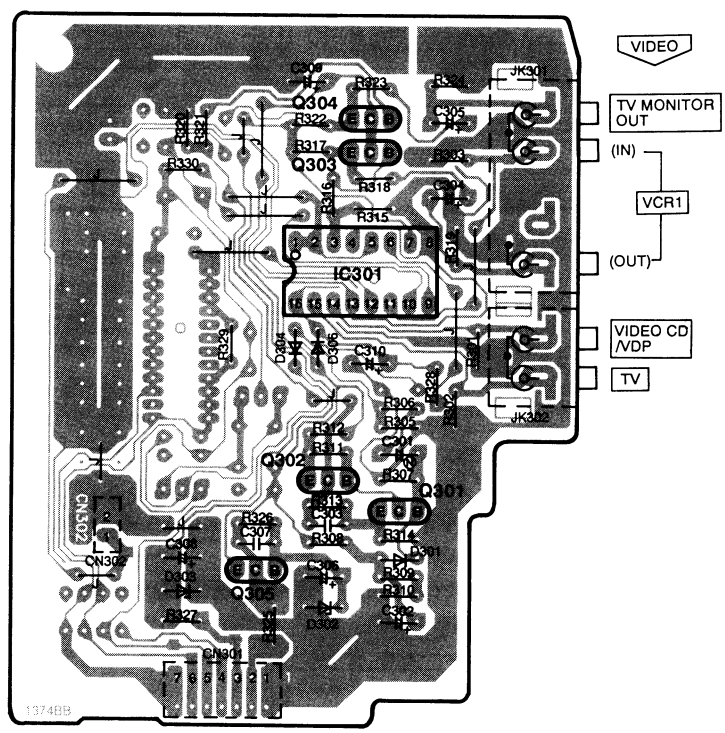
B VOLUME P.C.B. (REP2033B–S)

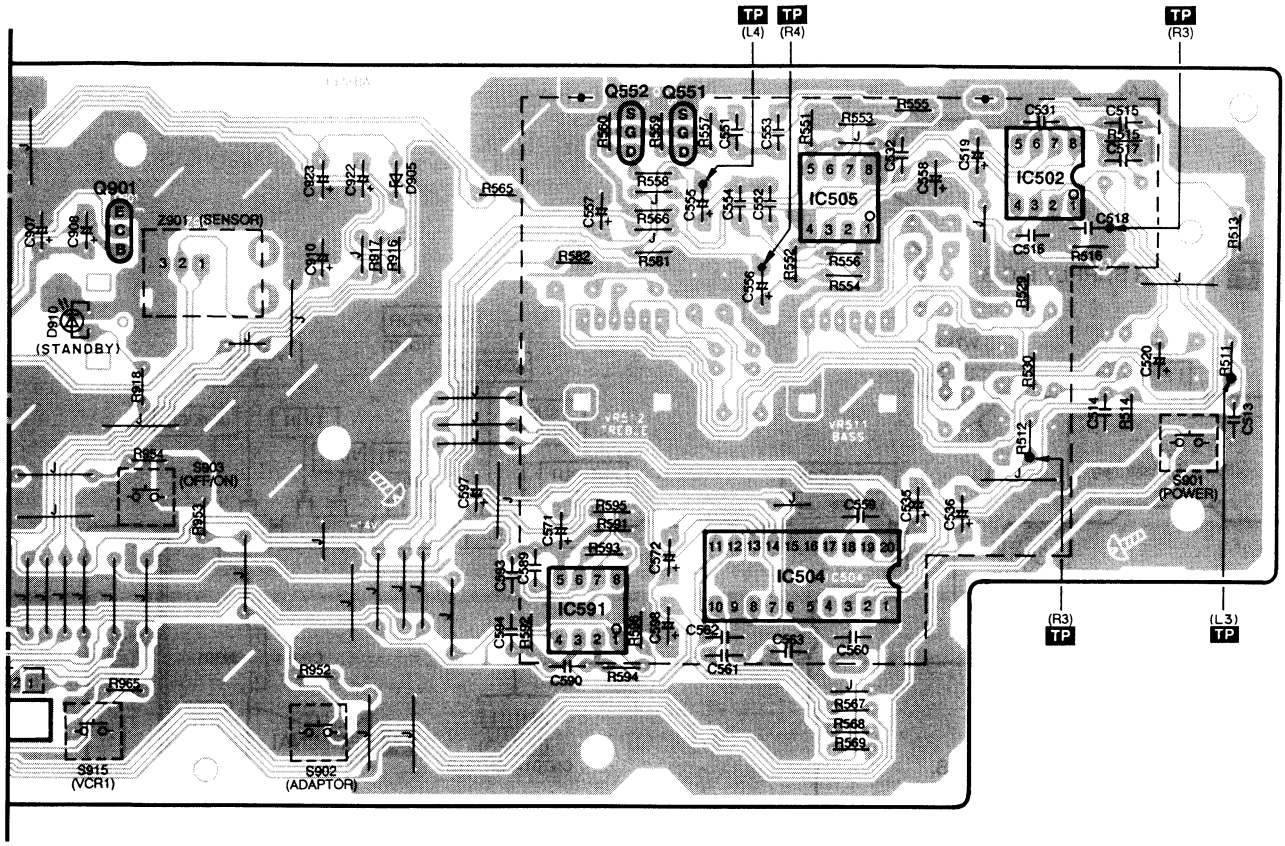


C GAME/VCR2 P.C.B. (REP2033B–S)

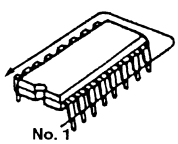


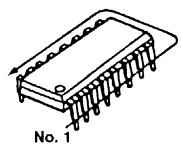
D IN/OUT TERMINAL P.C.B. (REP2034B–P)

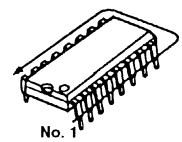




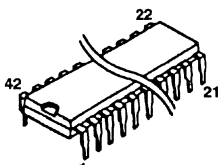
TC9214P	16 Pin	M5218AP	8 Pin	UPC4570C	8 Pin
TC9212P	20 Pin	LV1010N	24 Pin	MC14052BCP	16 Pin
				NJU7312AL	28 Pin



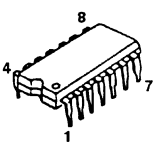




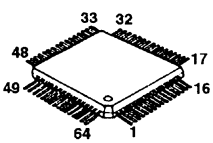
LA2785



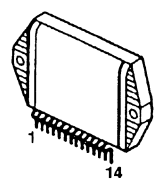
AN6554F



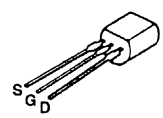
M38122M3302F



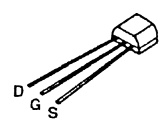
SVI3102D



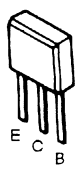
2SK301RSTA



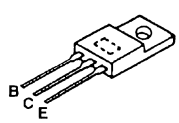
2SK330GRYTA



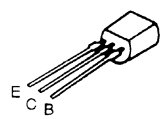
2SA1309AIRTA
2SC3311AIRTA
2SD1915FTA
UN421FTA
UN4214TA



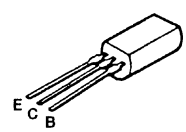
2SB1548PQAU
2SD2374PQAU



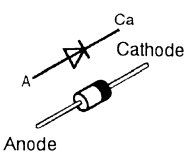
2SB621AQSTA



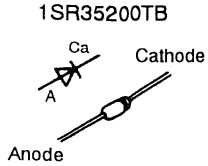
2SC3940AQSTA



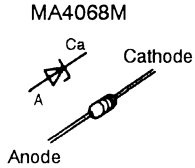
P300D5002T



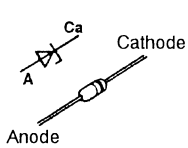
MA165
MA700
1SR35200TB



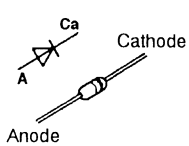
MA4039MTA
MA4056MTA
MA4068M



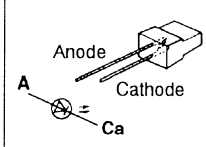
MA4100MTA
MA4150M
MA4220MTA



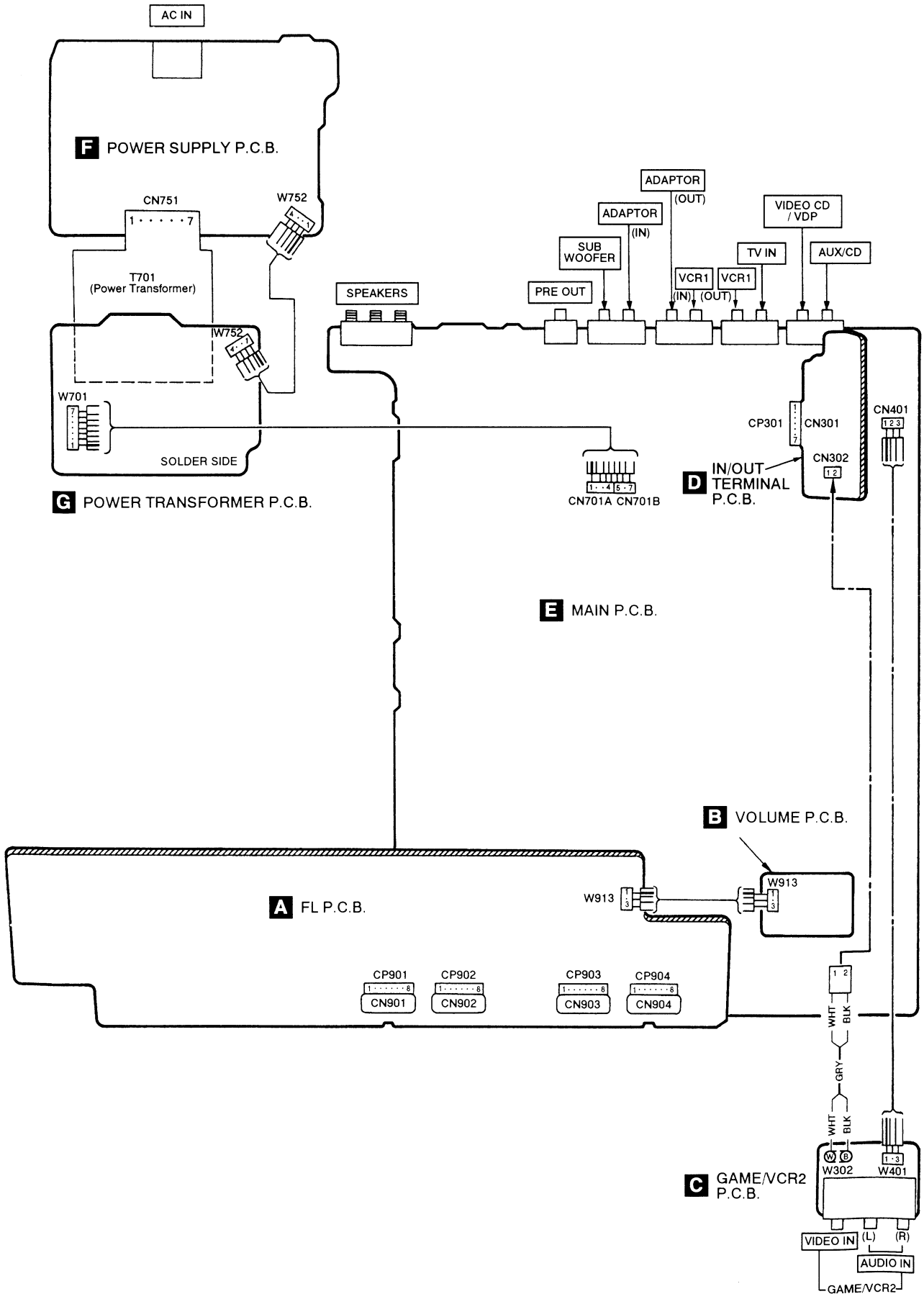
1SS291TA



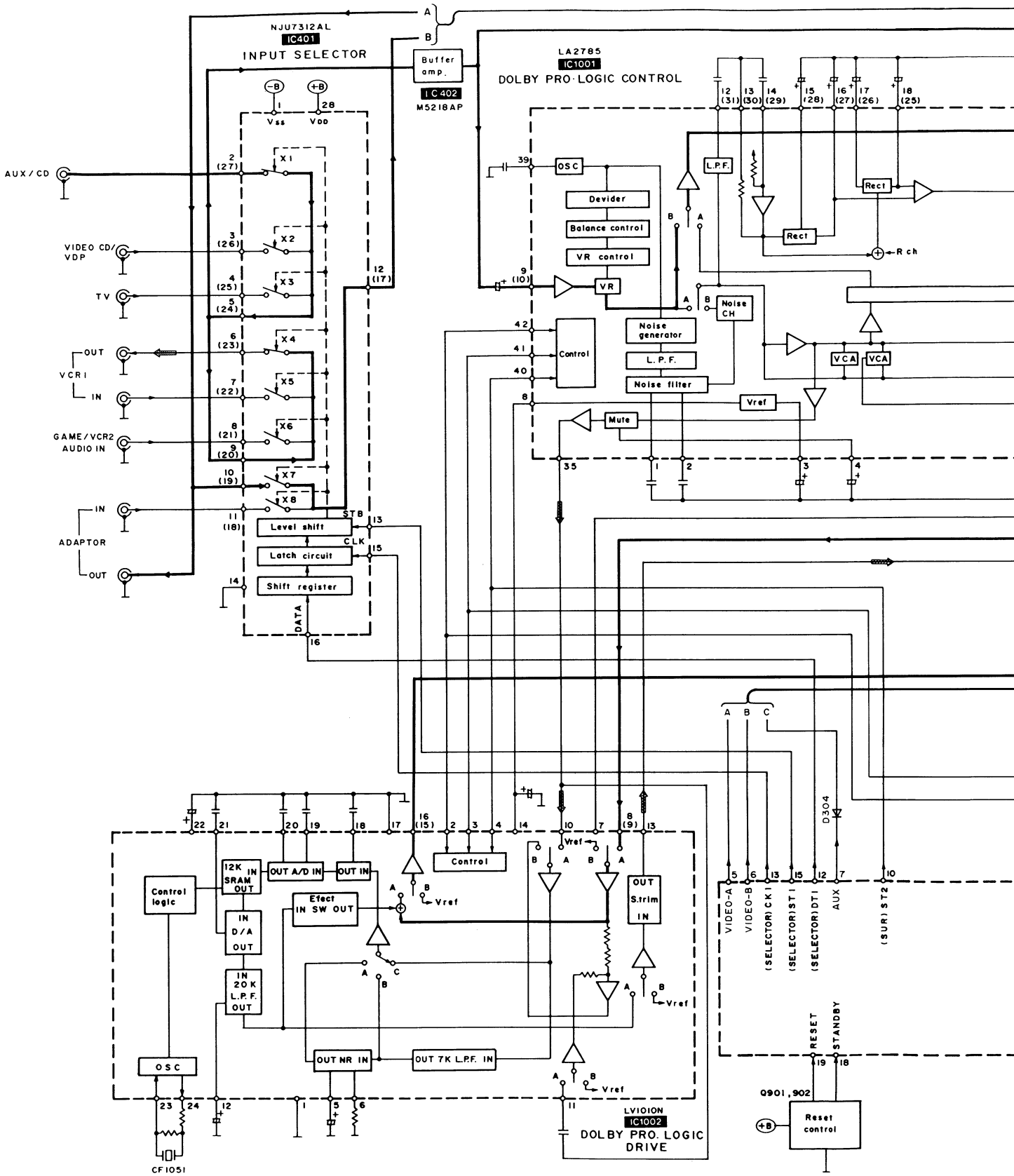
LN846RP

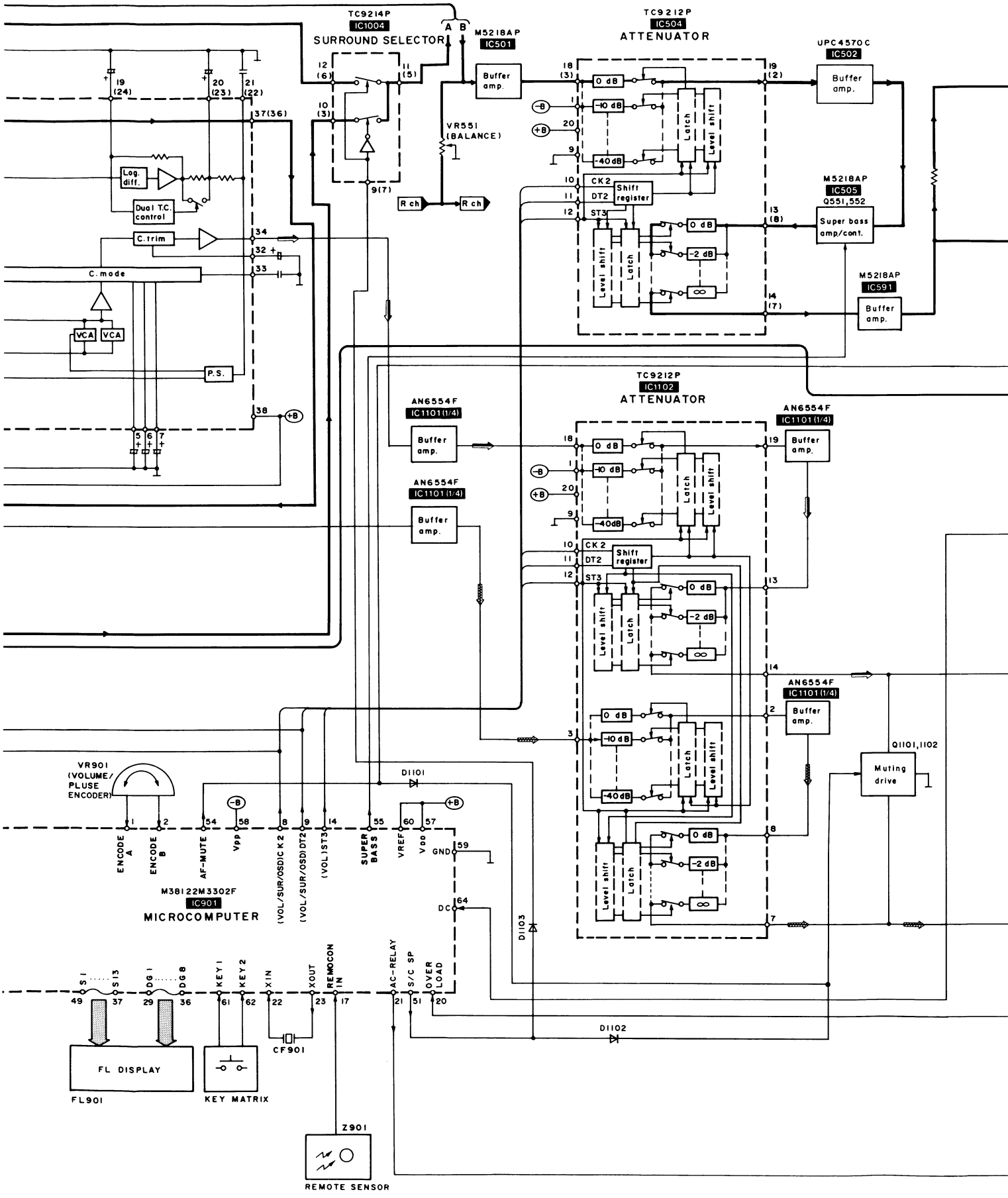


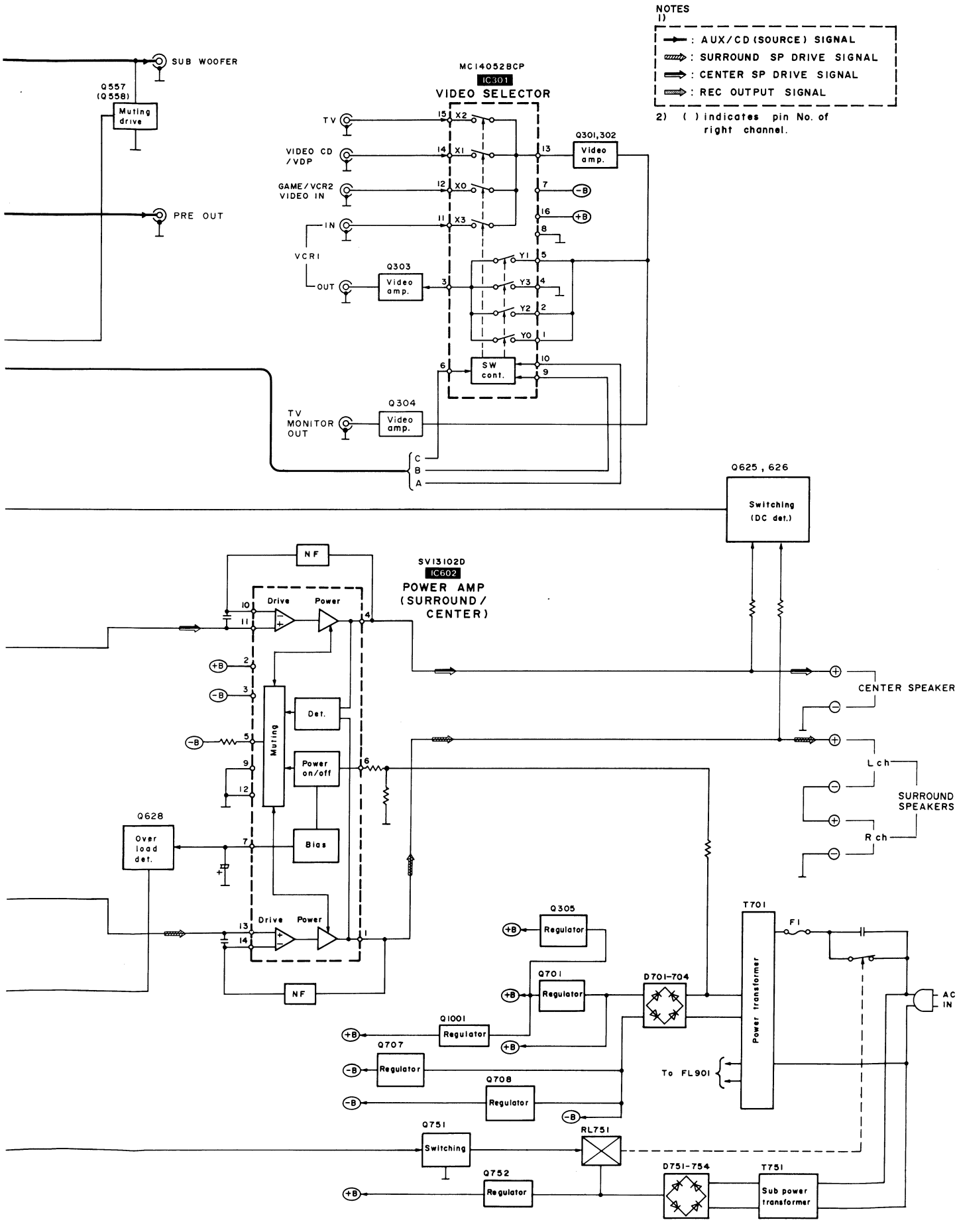
■ Wiring Connection Diagram



■ Block Diagram




TC9214P
IC1004
SURROUND SELECTOR
A B
M5218AP
IC501
Buffer amp.
VR551
(BALANCE)
R ch
TC9212P
IC504
ATTENUATOR
UPC4570C
IC502
M5218AP
IC505
Q551,552
Super bass amp/cont.
M5218AP
IC591
Log. diff.
Dual T.C. control
C. trim
C. mode
VCA
P.S.
AN6554F
IC1101(1/4)
TC9212P
IC1102
ATTENUATOR
0 dB
-10 dB
-40dB
-2 dB
Latch
Level shift
Shift register
CK2
DT2
ST3
Muting drive
Q1101,1102
D1101
D1102
D1103
VR901
(VOLUME/ PLUSE ENCODER)
ENCODE A
ENCODE B
AF-MUTE
Vpp
SUPER BASS
VREF
Vdd
GND
DC
M38122M3302F
IC901
MICROCOMPUTER
REMOCON IN
AC-RELAY
S/C SP
OVER LOAD
XIN
XOUT
KEY1
KEY2
CF901
FL DISPLAY
FL901
KEY MATRIX
Z901
REMOTE SENSOR


NOTES
1)
: AUX/CD (SOURCE) SIGNAL
: SURROUND SP DRIVE SIGNAL
: CENTER SP DRIVE SIGNAL
: REC OUTPUT SIGNAL
2) ( ) indicates pin No. of right channel.
SUB WOOFER
Q557 (Q558)
Muting drive
PRE OUT
MC14052BCP
IC301
VIDEO SELECTOR
TV
VIDEO CD /VDP
GAME/VCR2 VIDEO IN
VCR1 IN
VCR1 OUT
Q303
Video amp.
Q301,302
Video amp.
SW cont.
Q304
Video amp.
TV MONITOR OUT
Q625, 626
Switching (DC det.)
NF
SV13102D
IC602
POWER AMP (SURROUND/ CENTER)
Drive
Power
Muting
Det.
Power on/off
Bias
Q628
Over load det.
CENTER SPEAKER
Lch
SURROUND SPEAKERS
Rch
Q305
Regulator
Q701
Regulator
Q1001
Regulator
Q707
Regulator
Q708
Regulator
D701-704
T701
Power transformer
F1
AC IN
To FL901
Q751
Switching
RL751
Q752
Regulator
D751-754
T751
Sub power transformer

■ Function of IC Terminals

• IC901 (M38122M3302F): Microcomputer

Pin No.	Terminal Name	I/O	Function
1	ENCODE A	I	Rotary encoder (volume control) signal input
2	ENCODE B	I	Rotary encoder (volume control) signal input
3	EFFECT	O	No used, open
4	SFC	—	No used, open
5	VIDEO A	O	Output the control signal for video selector IC (IC301)
6	VIDEO B	O	Output the control signal for video selector IC (IC301)
7	AUX	O	Output the control signal for video selector IC (IC301)
8	CK2 (VOL/ SUR/OSD)	O	Serial clock signal output
9	DT2 (VOL/ SUR/OSD)	O	Serial data signal output
10	ST2 (SUR)	O	Surround selector signal output
11	ST4 (OSD)	O	Strobe signal output
12	DT1 (SELECTOR)	O	Output the data signal for input selector IC (IC401)
13	CK1 (SELECTOR)	O	Output the clock signal for input selector IC (IC401)
14	ST3 (VOL)	O	Output the volume control signal
15	ST1 (SELECTOR)	O	Output the control signal for input selector IC (IC401)
16	VIDEO	I	Video detect signal input
17	REM IN	I	Remote control signal input
18	STANDBY	I	Power suspension detect signal input
19	RESET	I	Reset detect signal input
20	OVER LOAD	I	Input the over load detect signal
21	AC RELAY	O	Output the AC relay control signal
22	X IN	I	Connect to the ceramic oscillator (6 MHz)
23	X OUT	O	
24	VSS	—	Connect to GND
25	—	—	No used, connect to GND
26~ 28	—	—	No used, open
29~ 36	DG1~DG8	O	FL grid drive signal output
37~ 49	S13~S1	O	FL segment drive signal output
50	INIT IN	I	Input signal for initializing
51	S/C SP	O	SURROUND and CENTER speaker select control signal output
52, 53	SPA, SPB	—	No used, open
54	AF MUTE	O	Muting control signal output
55	SUPER BASS	O	Super bass control signal output
56	STANDBY LED	O	Output the LED (STANDBY) drive signal
57	VDD	I	Power supply (+5 V)
58	VPP	I	Negative power supply for FL display
59	GND	—	Connect to GND
60	VRFE	I	Reference voltage input
61, 62	KEY1, KEY2	I	Key operation signal input
63	KEY3	—	No used, open
64	DC	I	DC protection detect signal input

■ Replacement Parts List

Notes: *Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
*Remote Control Ass'y: Supply period for three years from termination of production.
*The "(SF)" mark denotes the standard part.
*<VRD>: indicates parts that are supplied by Video Recorder Division.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC301	MC14052BCP	IC, VIDEO SELECTOR	
IC401	NJU7312AL	IC, INPUT SELECTOR	
IC402	M5218AP	IC, BUFFER AMP.	
IC501	M5218AP	IC, BUFFER AMP.	
IC502	UPC4570C	IC, BUFFER AMP.	
IC504	TC9212P	IC, ATTENUATOR	
IC505	M5218AP	IC, SUPER BASS AMP.	
IC591	M5218AP	IC, BUFFER AMP.	
IC602	SVI3102D	IC, POWER AMP.	⚠
IC901	M38122M3302F	IC, MICRO COMPUTER	
IC1001	LA2785	IC, DOLBY PRO. LOGIC CONTROL	
IC1002	LV1010N	IC, DOLBY PRO. LOGIC DRIVE	
IC1004	TC9214P	IC, SURROUND SELECTOR	
IC1101	AN6554F	IC, BUFFER AMP.	
IC1102	TC9212P	IC, ATTENUATOR	
		TRANSISTOR(S)	
Q301	2SC3311AIRTA	TRANSISTOR	
Q302	2SA1309AIRTA	TRANSISTOR	
Q303, 304	2SC3311AIRTA	TRANSISTOR	
Q305	2SC3940AQSTA	TRANSISTOR	⚠
Q551, 552	2SK301RSTA	TRANSISTOR	
Q557, 558	2SD1915FTA	TRANSISTOR	
Q625, 626	2SC3311AIRTA	TRANSISTOR	
Q628	2SK330GRYTA	TRANSISTOR	
Q701	2SD2374PQAU	TRANSISTOR	⚠
Q707	2SB621AQSTA	TRANSISTOR	⚠
Q708	2SB1548PQAU	TRANSISTOR	⚠
Q751	UN421FTA	TRANSISTOR	
Q752	2SC3940AQSTA	TRANSISTOR	⚠
Q901	UN4214TA	TRANSISTOR	
Q902	2SA1309AIRTA	TRANSISTOR	⚠
Q1001	2SC3940AQSTA	TRANSISTOR	⚠
Q1101, 1102	2SC3311AIRTA	TRANSISTOR	
		DIODE(S)	
D301	MA165	DIODE	
D302, 303	MA4056MTA	DIODE	⚠
D304	MA165	DIODE	
D306	MA165	DIODE	
D657	MA165	DIODE	

Ref. No.	Part No.	Part Name & Description	Remarks
D701-704	P300D5002T	DIODE	⚠
D705	MA4150M	DIODE	⚠
D707	MA4220MTA	DIODE	⚠
D708	MA4150M	DIODE	⚠
D751-754	1SR35200TB	DIODE	⚠
D755	MA165	DIODE	
D756	MA4068M	DIODE	⚠
D901	1SS291TA	DIODE	
D902, 903	MA165	DIODE	
D904	MA4039MTA	DIODE	⚠
D905	MA4056MTA	DIODE	⚠
D906	MA165	DIODE	
D910	LN846RP	L. E. D.	
D912, 913	MA700	DIODE	
D1001	MA4100MTA	DIODE	⚠
D1003	MA165	DIODE	
D1101, 1102	MA165	DIODE	
		VARIABLE RESISTOR(S)	
VR551	EVJ02QF02G15	V. R, BALANCE	
VR901	EVQWQAF2524B	V. R, VOLUME	
		COMPONENT COMBINATION(S)	
Z751	ERZV10V511CS	SURGE ABSORBER	⚠
Z901	RCDHC-278N	REMOTE SENSOR	
		COIL(S)	
L651, 652	RLQYR73M	COIL	
L701	SLQZ650MH49	COIL	⚠
L751	ELEPK101KA	COIL	
L901	RLQZP101KT-Y	COIL	
L1051	ELEPK101KA	COIL	
		TRANSFORMER(S)	
T701	RTP1V5E002-W	POWER TRANSFORMER(MAIN)	⚠(E) (EG)
T701	RTP1V5B002-W	POWER TRANSFORMER(MAIN)	⚠(EB)
T751	RTP1I5E003-V	POWER TRANSFORMER(SUB)	⚠
		FILTER(S)	
CF901	EFOEC6004T4	CERAMIC FILTER(6MHz)	
CF1051	EFOEC8004T4	CERAMIC FILTER(8MHz)	

Ref. No.	Part No.	Part Name & Description	Remarks
		DISPLAY TUBE	
FL901	RSL0196-F	DISPLAY TUBE	
		FUSE (S)	
F1	XBA2C10TB0	FUSE 250V T1A	⚠
		SWITCH(ES)	
S901	EVQ21405R	SW, POWER	
S902	EVQ21405R	SW, ADAPTOR	
S903	EVQ21405R	SW, OFF/ON	
S904	EVQ21405R	SW, PRO LOGIC	
S905	EVQ21405R	SW, THEATER EFEECT	
S906	EVQ21405R	SW, SFC	
S907	EVQ21405R	SW, CENTER MODE	
S911	EVQ21405R	SW, AUX/CD	
S912	EVQ21405R	SW, GAME/VCR2	
S913	EVQ21405R	SW, VIDEO CD/VDP	
S914	EVQ21405R	SW, TV	
S915	EVQ21405R	SW, VCR1	
		CONNECTOR (S)	
CN301	RJU057W007	CONNECTOR (7P)	
CN302	SJT3215	CONNECTOR (2P)	
CN401	RJS1A6603	CONNECTOR (3P)	
CN751	SJS702-2	CONNECTOR (7P)	
CN753, 754	RJS1A1101T1	CONNECTOR (1P)	
CN757-759	RJS1A1101T1	CONNECTOR (1P)	
CN901-904	RJU003K008M1	CONNECTOR (8P)	
CN701A	RJS1A6604	CONNECTOR (4P)	
CN701B	RJS1A6603	CONNECTOR (3P)	
CP301	RJT057W007-1	CONNECTOR (7P)	
CP901-904	RJT003K008-1	CONNECTOR (8P)	
		EARTH TERMINAL (S)	
E401	SNE1004-2	GND PLATE	
E601	SNE1004-2	GND PLATE	
		FUSE HOLDER (S)	
FC701, 702	EYF52BC	FUSE HOLDER	
		RELAY (S)	
RL751	RSY0019M-0	RELAY	⚠
		JACK (S)	

Ref. No.	Part No.	Part Name & Description	Remarks
JK301	SJF3069-10N	TERMINAL, TV MONITOR OUT	
JK302	SJF3068-2N	TERMINAL, VIDEO/TV	
JK401-404	SJF3069N	TERMINAL, AUDIO	
JK405	SJF3068-7N	TERMINAL, PRE OUT	
JK406	SJFK5-1	TERMINAL, GAME/VCR2	
JK601	RJH5601	TERMINAL, SP	
JK791	SJS9236	AC INLET	⚠

Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads(F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R301-304	ERDS2TJ820	1/4W 82
R305	ERDS2TJ103	1/4W 10K
R306	ERDS2TJ470	1/4W 47
R307	ERDS2TJ104	1/4W 100K
R308	ERDS2TJ472	1/4W 4.7K
R309	ERDS2TJ222	1/4W 2.2K
R310, 311	ERDS2TJ331	1/4W 330
R312	ERDS2TJ330	1/4W 33
R313	ERDS2EJ121	1/4W 120
R314	ERDS2TJ101	1/4W 100
R315	ERDS2TJ103	1/4W 10K
R316	ERDS2TJ470	1/4W 47
R317	ERDS2TJ471	1/4W 470
R318	ERDS2TJ680T	1/4W 68
R319, 320	ERDS2TJ103	1/4W 10K
R321	ERDS2TJ470	1/4W 47
R322	ERDS2TJ471	1/4W 470
R323	ERDS2TJ680T	1/4W 68
R324	ERDS2TJ103	1/4W 10K
R325	ERD25FJ220	1/4W 22 ⚠
R326	ERDS2TJ222	1/4W 2.2K
R327	ERDS1FVJ271T	1/2W 270 ⚠
R328	ERDS2TJ104	1/4W 100K
R329, 330	ERDS2TJ102	1/4W 1K
R401-414	ERDS2TJ102	1/4W 1K
R415, 416	ERDS2TJ473	1/4W 47K
R417, 418	ERDS2TJ182	1/4W 1.8K
R419, 420	ERDS2TJ102	1/4W 1K
R423-426	ERDS2TJ102	1/4W 1K
R427-429	ERDS2TJ103	1/4W 10K
R431, 432	ERDS2TJ102	1/4W 1K
R433, 434	ERDS2TJ104	1/4W 100K
R435, 436	ERDS2TJ473	1/4W 47K
R437, 438	ERDS2TJ104	1/4W 100K
R439, 440	ERDS2TJ682T	1/4W 6.8K
R441, 442	ERDS2TJ103	1/4W 10K
R443, 444	ERDS2TJ102	1/4W 1K
R501, 502	ERDS2TJ332	1/4W 3.3K
R503-506	ERDS2TJ224T	1/4W 220K
R511, 512	ERDS2TJ471	1/4W 470
R513, 514	ERDS2TJ104	1/4W 100K
R515, 516	ERDS2TJ333	1/4W 33K
R529, 530	ERDS2TJ332	1/4W 3.3K
R551, 552	ERDS2TJ471	1/4W 470
R553, 554	ERDS2TJ102	1/4W 1K
R555, 556	ERDS2TJ563	1/4W 56K
R557, 558	ERDS2TJ682T	1/4W 6.8K
R559, 560	ERDS2TJ824	1/4W 820K
R565	ERDS2TJ563	1/4W 56K
R566	ERDS2TJ224T	1/4W 220K
R567-569	ERDS2TJ332	1/4W 3.3K
R571, 572	ERDS2TJ474	1/4W 470K
R577	ERDS2TJ152	1/4W 1.5K
R578	ERDS2TJ474	1/4W 470K
R579, 580	ERDS2TJ222	1/4W 2.2K
R581, 582	ERDS2TJ224T	1/4W 220K
R583, 584	ERDS2TJ102	1/4W 1K
R591, 592	ERDS2TJ224T	1/4W 220K
R593, 594	ERDS2TJ223	1/4W 22K
R595, 596	ERDS2TJ392T	1/4W 3.9K
R625	ERDS2TJ473	1/4W 47K
R626	ERDS2TJ103	1/4W 10K
R629	ERDS2TJ103	1/4W 10K
R630	ERDS2TJ563	1/4W 56K
R641	ERDS2TJ684	1/4W 680K
R651, 652	ERDS2TJ102	1/4W 1K
R653, 654	ERDS2TJ473	1/4W 47K
R655, 656	ERDS2TJ272T	1/4W 2.7K
R657, 658	ERDS2TJ473	1/4W 47K
R659, 660	ERDS2TJ470	1/4W 47
R661, 662	ERDS1FVJ100T	1/2W 10 ⚠
R663	ERDS2TJ124T	1/4W 120K
R664	ERDS2TJ104	1/4W 100K
R665	ERDS2TJ684	1/4W 680K
R668	ERDS2TJ154	1/4W 150K
R669	ERDS2TJ223	1/4W 22K
R670	ERD25FJ470	1/4W 47 ⚠
R703, 704	ERDS1FVJ100T	1/2W 10 ⚠
R705	ERDS2TJ472	1/4W 4.7K
R706	ERDS2TJ471	1/4W 470
R721	ERDS1FVJ6R8T	1/2W 6.8 ⚠
R722	ERD25FJ101	1/4W 100 ⚠
R723	ERDS2TJ472	1/4W 4.7K
R724	ERDS1FVJ100T	1/2W 10 ⚠
R725	ERDS2TJ152	1/4W 1.5K
R727	ERD25FVJ5R6T	1/4W 5.6 ⚠
R754	ERDS2TJ102	1/4W 1K
R901	ERDS2TJ102	1/4W 1K
R902	ERDS2TJ105T	1/4W 1M
R903	ERDS2TJ104	1/4W 100K
R904	ERDS2TJ472	1/4W 4.7K
R905	ERDS2TJ271	1/4W 270
R906	ERDS2EJ121	1/4W 120
R907, 908	ERDS2TJ102	1/4W 1K
R909-911	ERDS2TJ104	1/4W 100K
R912	ERDS2TJ102	1/4W 1K
R913-915	ERDS2TJ104	1/4W 100K
R916, 917	ERDS2TJ101	1/4W 100
R918	ERDS2TJ151	1/4W 150
R923-925	ERDS2TJ102	1/4W 1K
R926, 927	ERDS2TJ472	1/4W 4.7K
R928	ERDS2TJ103	1/4W 10K
R930-933	ERDS2TJ102	1/4W 1K
R950	ERDS2TJ103	1/4W 10K
R951	ERDS2TJ102	1/4W 1K
R952	ERDS2TJ122	1/4W 1.2K
R953	ERDS2TJ152	1/4W 1.5K
R954	ERDS2TJ182	1/4W 1.8K
R955	ERDS2TJ222	1/4W 2.2K
R956	ERDS2TJ332	1/4W 3.3K
R957	ERDS2TJ472	1/4W 4.7K
R960	ERDS2TJ103	1/4W 10K
R961	ERDS2TJ102	1/4W 1K
R962	ERDS2TJ122	1/4W 1.2K
R963	ERDS2TJ152	1/4W 1.5K
R964	ERDS2TJ182	1/4W 1.8K
R965	ERDS2TJ222	1/4W 2.2K
R1001, 1002	ERDS2TJ222	1/4W 2.2K
R1003, 1004	ERDS2TJ102	1/4W 1K
R1005	ERDS2TJ203T	1/4W 20K
R1009-1011	ERDS2TJ332	1/4W 3.3K
R1012	ERDS2TJ102	1/4W 1K
R1024	ERDS2TJ103	1/4W 10K
R1025	ERDS2TJ104	1/4W 100K
R1027, 1028	ERDS2TJ473	1/4W 47K
R1051	ERDS2TJ393	1/4W 39K
R1052	ERDS2TJ105T	1/4W 1M
R1053	ERDS2TJ102	1/4W 1K
R1055, 1056	ERDS2TJ473	1/4W 47K
R1061	ERDS2TJ222	1/4W 2.2K
R1062	ERDS2TJ103	1/4W 10K
R1063	ERDS2TJ273	1/4W 27K
R1065, 1066	ERDS2TJ473	1/4W 47K
R1101, 1102	ERDS2TJ222	1/4W 2.2K
R1103, 1104	ERDS2TJ682T	1/4W 6.8K
R1105, 1106	ERDS2TJ474	1/4W 470K
R1107, 1108	ERDS2TJ102	1/4W 1K
R1109, 1110	ERDS2TJ104	1/4W 100K
R1111	ERDS2TJ102	1/4W 1K
R1112	ERDS2TJ821	1/4W 820
R1113	ERDS2TJ822	1/4W 8.2K
R1114	ERDS2TJ123	1/4W 12K
R1115, 1116	ERDS2TJ474	1/4W 470K
R1117, 1118	ERDS2TJ224T	1/4W 220K

Ref. No.	Part No.	Values & Remarks
R1119-1121	ERDS2TJ332	1/4W 3.3K
R1131, 1132	ERDS2TJ222	1/4W 2.2K
R1133, 1134	ERDS2TJ102	1/4W 1K
R1135	ERDS2TJ474	1/4W 470K
R1136	ERDS2TJ103	1/4W 10K
R1137, 1138	ERDS2TJ332	1/4W 3.3K
R1139	ERDS2TJ152	1/4W 1.5K
R1140	ERDS2TJ223	1/4W 22K
		CAPACITORS
C301	ECEA1HKN3R3B	50V 3.3U
C302	RCE1AKA330BG	10V 33U
C303	ECBT1H330J5	50V 33P
C304, 305	ECA0JM471B	6.3V 470U
C306	RCE1CKA100BG	16V 10U
C307	ECBT1E103ZF	25V 0.01U
C308, 309	RCE0JKA101BV	6.3V 100U
C310	RCE1CKA100BG	16V 10U
C401-406	ECBT1H101KB5	50V 100P
C407-412	ECBT1H331KB5	50V 330P
C413-416	ECBT1H101KB5	50V 100P
C417, 418	ECBT1H221KB5	50V 220P
C419, 420	ECEA1VKA4R7B	35V 4.7U
C421, 422	ECBT1E103ZF	25V 0.01U
C423	ECBT1H101KB5	50V 100P
C425, 426	RCE1CKA100BG	16V 10U
C427, 428	ECBT1H101KB5	50V 100P
C431, 432	ECBT1H101KB5	50V 100P
C433-436	RCE1CKA100BG	16V 10U
C437	ECBT1H101KB5	50V 100P
C501, 502	ECEA1VKA4R7B	35V 4.7U
C503, 504	ECBT1H101KB5	50V 100P
C505, 506	RCE1CKA100BG	16V 10U
C507, 508	ECBT1E103ZF	25V 0.01U
C513-516	ECBT1H221KB5	50V 220P
C517, 518	ECBT1H330J5	50V 33P
C519, 520	RCE1CKA100BG	16V 10U
C531, 532	ECBT1E103ZF	25V 0.01U
C535, 536	RCE1CKA100BG	16V 10U
C551-554	ECQV1H104JM3	50V 0.1U
C555-558	RCE1CKA100BG	16V 10U
C559, 560	ECBT1E103ZF	25V 0.01U
C561-563	ECBT1H101KB5	50V 100P
C571, 572	ECEA1VKA4R7B	35V 4.7U
C573	ECEA1HKN010B	50V 1U
C589, 590	ECBT1H221KB5	50V 220P
C591, 592	RCE1CKA100BG	16V 10U
C593, 594	ECBT1H101KB5	50V 100P
C595-598	RCE1CKA100BG	16V 10U
C625	ECA1HM470B	50V 47U
C651, 652	ECEA1HKN3R3B	50V 3.3U

Ref. No.	Part No.	Values & Remarks
C653, 654	ECBA1H681KB5	50V 680P
C655, 656	RCE1CKA220BG	16V 22U
C657, 658	ECCR1H100K5	50V 10P
C659, 660	ECBT1H821KB5	50V 820P
C661, 662	ECQV1H473JM3	50V 0.047U
C667	ECA1JM330B	63V 33U
C668	ECEA2AU100	100V 10U
C671-673	ECKR1H103ZF5	50V 0.01U
C701	ECBT1E103ZF	25V 0.01U
C702	ECQE2104KF3	250V 0.1U
C703, 704	ECES42V472MX	42V 4700U ⚠
C707	ECA1VM101B	35V 100U
C708	ECKR1H103ZF5	50V 0.01U
C711	ECKR1H103ZF5	50V 0.01U
C712	ECEA1HKA100B	50V 10U
C713	ECKR1H103ZF5	50V 0.01U
C714	RCE1CKA470BG	16V 47U
C751	ECKWNS102MBM	400V 1000P ⚠
C752	ECKR1H103ZF5	50V 0.01U
C753	ECA1EM102B	25V 1000U ⚠
C754	ECBT1E103ZF	25V 0.01U
C755	RCE1CKA470BG	16V 47U
C758	RCE1AKA101BG	10V 100U
C901	ECBT1E103ZF	25V 0.01U
C902	RCE0JKA101BV	6.3V 100U
C903	ECA0JM222B	6.3V 2200U
C905	RCE0JKA101BV	6.3V 100U
C906	ECBT1H104ZF5	50V 0.1U
C907, 908	ECEA1HKA010B	50V 1U
C909	ECBT1E103ZF	25V 0.01U
C910	RCE1CKA100BG	16V 10U
C911, 912	ECBT1E103ZF	25V 0.01U
C913-920	ECBT1H331KB5	50V 330P
C921	ECBT1E103ZF	25V 0.01U
C922, 923	RCE1VKA100BG	35V 10U
C924-927	ECEA1JU220	63V 22U
C929, 930	ECBT1H101KB5	50V 100P
C1001, 1002	ECEA1HKA010B	50V 1U
C1005	ECEA1HKA010B	50V 1U
C1007	ECFR1E223KR	25V 0.022U
C1008	ECFR1E473KR	25V 0.047U
C1009	RCE0JKA221BV	6.3V 220U
C1010-1013	RCE1CKA100BG	16V 10U
C1014	RCE0JKA221BV	6.3V 220U
C1015, 1016	ECQV1H104JM3	50V 0.1U
C1017	RCE1HKAR47BG	50V 0.47U
C1018	ECEA1VKA4R7B	35V 4.7U
C1019	RCE1HKAR47BG	50V 0.47U
C1020	ECEA1VKA4R7B	35V 4.7U
C1021	ECEA1HKAR15B	50V 0.15U
C1022	RCE1HKA3R3BG	50V 3.3U
C1023, 1024	ECQV1H154JM3	50V 0.15U

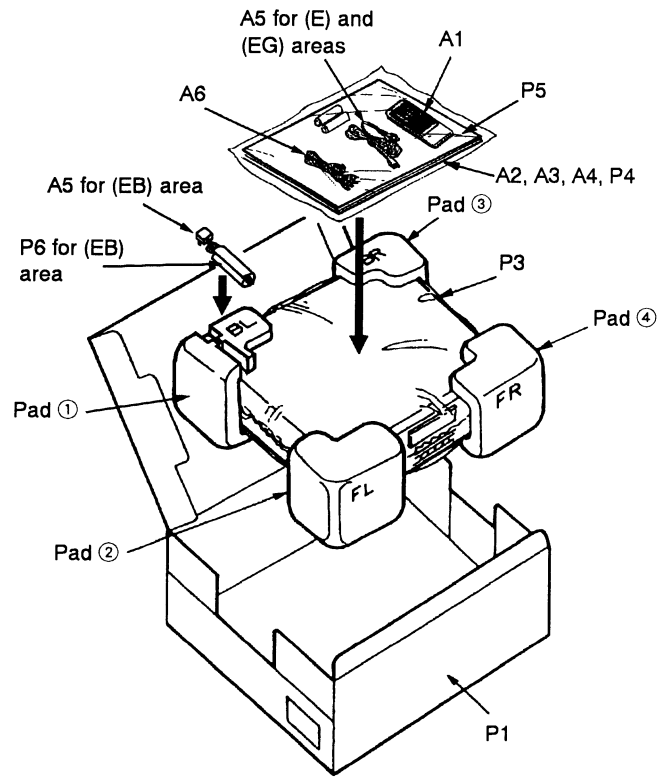
Ref. No.	Part No.	Values & Remarks
C1025	RCE1HKA3R3BG	50V 3.3U
C1026	ECEA1HKAR15B	50V 0.15U
C1027	ECEA1VKA4R7B	35V 4.7U
C1028	RCE1HKAR47BG	50V 0.47U
C1029	ECEA1VKA4R7B	35V 4.7U
C1030	RCE1HKAR47BG	50V 0.47U
C1031, 1032	ECQV1H104JM3	50V 0.1U
C1033	RCE1CKA470BG	16V 47U
C1034	ECQV1H474JM3	50V 0.47U
C1035	ECBA1H681KB5	50V 680P
C1036-1038	ECBT1H101KB5	50V 100P
C1039	RCE1CKA101BV	16V 100U
C1040	RCE1CKA100BG	16V 10U
C1041	ECBT1E103ZF	25V 0.01U
C1043, 1044	ECBT1E103ZF	25V 0.01U
C1051	ECEA1HKA2R2B	50V 2.2U
C1052	ECEA1HKA010B	50V 1U
C1053	RCE1HKA3R3BG	50V 3.3U
C1054	RCE0JKA221BV	6.3V 220U
C1055	ECEA1HKA010B	50V 1U
C1056	ECFR1E333KR	25V 0.033U
C1057	ECFR1E152KR	25V 1500P
C1058	ECFR1E333KR	25V 0.033U
C1059	RCE1CKA101BV	16V 100U
C1060	ECBT1E223ZF	25V 0.022U
C1061	RCE1HKA3R3BG	50V 3.3U
C1062	ECBT1E223ZF	25V 0.022U
C1063	RCE1CKA101BV	16V 100U
C1064	ECQV1H104JM3	50V 0.1U
C1065	ECBA1H681KB5	50V 680P
C1067, 1068	RCE1HKA3R3BG	50V 3.3U
C1101-1108	RCE1HKA3R3BG	50V 3.3U
C1109-1111	ECBT1H101KB5	50V 100P
C1113, 1114	RCE1CKA100BG	16V 10U
C1115, 1116	ECBT1E103ZF	25V 0.01U
C1131	ECEA1HKN010B	50V 1U

Note: The reference number SA represent the grease and tool used for this unit.

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKM0219B-K	TOP CABINET	
2	RHD30035-K1	SCREW	
3	RGW0215-1K	KNOB, VOLUME	
4	XTBS3+8JFZ1	SCREW	
5	RGR0205C-A1	REAR PANEL	(E, EG)
5	RGR0205C-B1	REAR PANEL	(EB)
6	RFKJAGX470PK	BOTTOM CHASSIS ASS'Y	
6-1	RKA0053-A	FOOT	
7	RMC0158	HOLDER, TRASISTOR	
8	RMN0191	HOLDER, TRANSFORMER	
9	RMN0304	FL HOLDER	
10	RMZ0339	COVER	
11	RFKGEAV500EK	FRONT PANEL ASS'Y	
11-1	RKW0370A-K	FL PANEL	
12	RGU0882-K	BUTTON, POWER	
13	RGU1170A-K	BUTTON, SELECTOR	
14	RGU1171A-K	BUTTON, PRO. LOGIC	
15	RGW0175-1K	KNOB, BALANCE	
16	SNE4021-1	NUT	
17	XTBS26+8J	SCREW	
18	SHE187-2	P. C. B. SUPPORT	
19	SHR9814	CORD CLUMPER	
20	RMV0090	BARRIER	
21	XTB3+20JFZ	SCREW	
22	XTB3+8JFZ	SCREW	
23	XTWS3+8T	SCREW	
24	XTW3+15T	SCREW	
25	RWJ1807380KQ	FLAT CABLE(7P) (W701)	
26	RWJ1804110KK	FLAT CABLE(4P) (W752)	
27	REX0659	CABLE ASS'Y(W302)	
28	RWJ1803290KQ	FLAT CABLE(3P) (W401)	
29	RWJ1803090KK	FLAT CABLE(3P) (W913)	
		PACKING MATERIALS	
P1	RPG2321	PACKING CASE	(E, EG)
P1	RPG2322	PACKING CASE	(EB)
P2	RPN0752	PAD	
P3	SPP740	PROTECTION COVER	
P4	RPQ0164	PAD	
P5	RPF0139	PROTECTION COVER	
P6	RPH0032	PROTECTION SHEAT	(EB)
		ACCESSORIES	
A1	RAK-SA172XH	REMOTE CONTROL TRANSMITTER	
A1-1	RKK0057-K	BATTERY COVER	
A2	RQA0013	WARRANTY CARD	
A3	RQCB0169	SERVICE CENTER LIST	

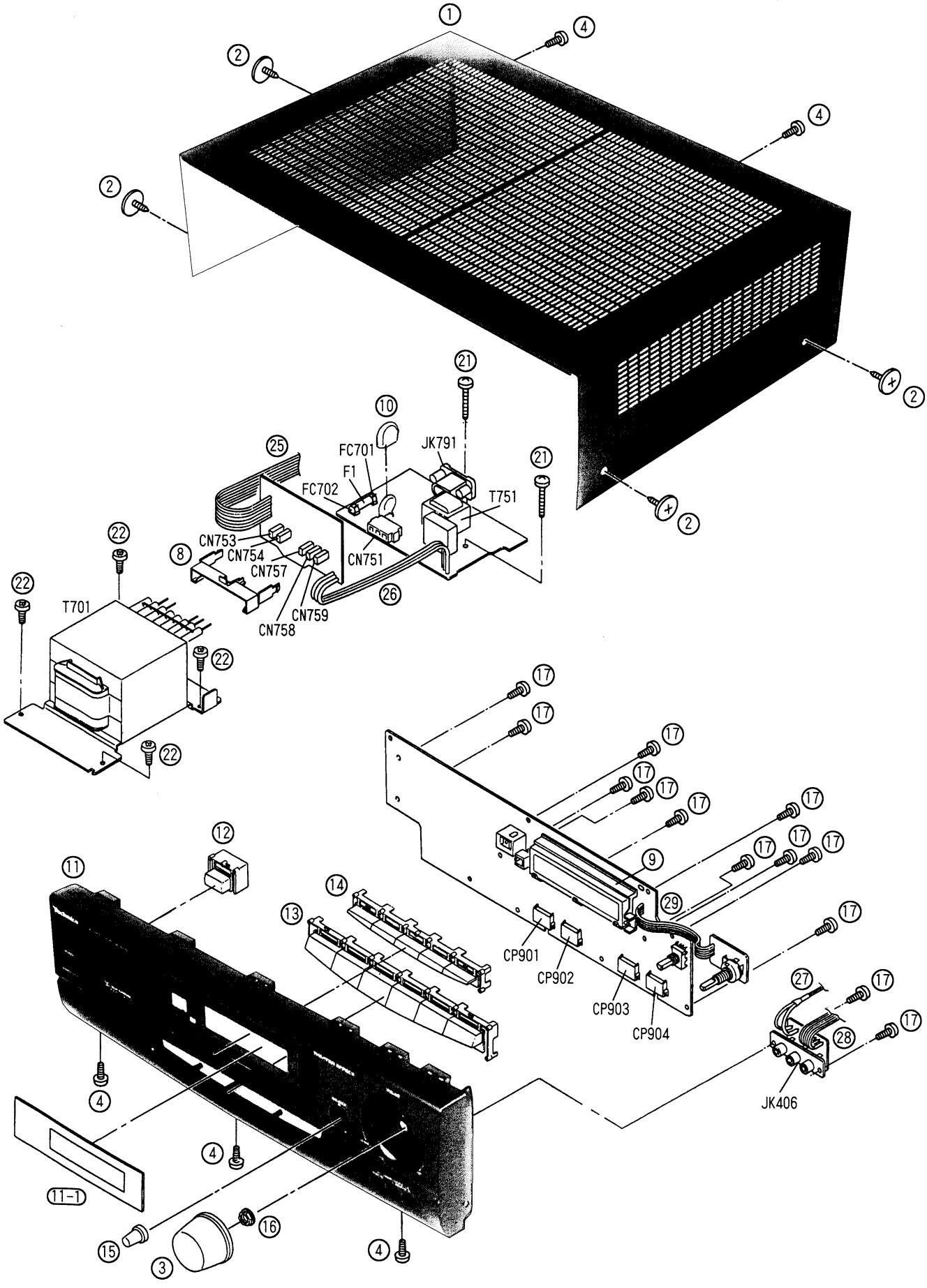
Ref. No.	Part No.	Part Name & Description	Remarks
A4	RFKSHAV500EK	INSTRUCTION MANUAL ASS'Y	(E)
A4	RQT2709-B	INSTRUCTION MANUAL	(EB)
A4	RQT2711-E	INSTRUCTION MANUAL	(EG)
A5	RJA0019-2K	AC MAINS LEAD	⚠(E, EG) (SF)
A5	VJA0733	AC MAINS LEAD	⚠(EB) (SF)<VRD>
A6	SJP2272-2	STEREO PIN CORD	
		GREASE OR JIG/TOOL	
SA1	RFKX0002	COMPOUND GREASE	

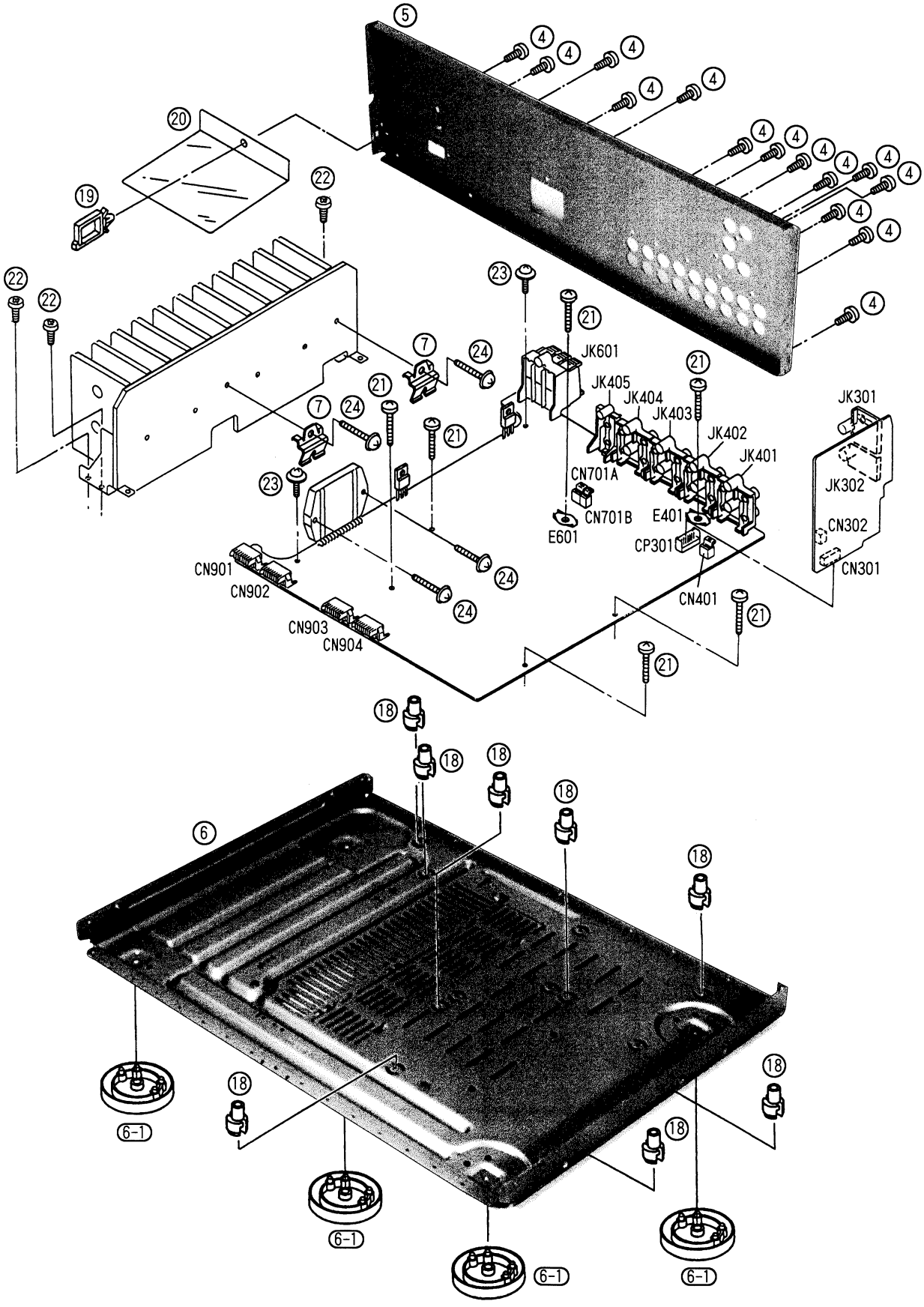
■ Packaging



P2: Pad ①, ②, ③, ④ ass'y

■ Cabinet Parts Location





Printed in Japan
F950609000 TW/HH